

NORFOLK COUNTY COUNCIL.

THE
ANNUAL REPORT
OF THE
COUNTY MEDICAL OFFICER OF HEALTH
AND
CHIEF SCHOOL MEDICAL OFFICER
FOR
NORFOLK,
For the Year
1908.

BY
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PART B.
REPORT OF THE COUNTY MEDICAL OFFICER OF HEALTH

(Part A, Report of the School Medical Officer, published February, 1909.)

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NORFOLK COUNTY COUNCIL.

Chairman—SIR W. H. BROWNE FFOLKES, BART.

Vice-Chairman—J. SANCROFT HOLMES.

The Norfolk County Council is the Supervising Authority and appoints a Sanitary Committee to consider and report to the County Council on Public Health matters.

SANITARY COMMITTEE.

The Sanitary Committee is constituted as follows:—

Chairman—KIMBERLEY, THE RIGHT HON. THE EARL OF

ASTLEY, D. G. L'ESTRANGE

BATEMAN, COLIN

BEETON, J. W.

COLMAN, W. B.

CRANMER, THOMAS

DAVISON, DANIEL

DENNY, R. H.

DIGBY, ALGERNON

EVANS-LOMBE, E. H.

GURNEY, EUSTACE

YOUNG, A. A.

JESSUP, ROBERT

KEPPEL, THOMAS

KIMBERLEY, THE EARL OF

KING, ROBERT

LOYNES, E. B.

MASON, R. HARVEY

MORNEMENT, EDWARD

PILGRIM, GEORGE

RACKHAM, G. W.

SAPWELL, B. B.

WATERS, C. W.

County Medical Officer of Health:

NASH, J. T. C., M.D., M.B., C.M. (Edin.), D.P.H. (Camb.), the Shirehouse, Norwich.

County Inspector of Midwives—

BERNARD-BOYCE, MISS F. M., Certified Midwife by Examination, the Shirehouse, Norwich.

The following tabular statement names the 32 local District Sanitary Authorities and their Medical Officers of Health, and also states the dates of receipt of the Annual Reports for the year 1908 :—

	M.O.H.	How Presented.	Date of Receipt by County M.O.H.
Rural Districts—			
Aylsham	H. H. Back, M.B.	Printed	April 5th, 1909
Blofield	H. H. Back, M.B.	Typed	„ „ „
Depwade	J. C. R. Robinson, M.R.C.S. ..	Printed	„ „ „
Docking	B. G. Sumpter, M.B.	Manuscript	March 2nd „
Downham	G. F. Cross, M.B.	Printed	Feb. 11th „
Erpingham	T. W. Richardson, M.R.C.S. ..	„	March 29th „
Flegg, E. and W. ..	W. Royden, M.R.C.S.	„	Feb. 27th „
Forehoe	T. L. Lack, M.R.C.S.	„	April 21st „
Henstead	S. H. Burton, M.B.	Manuscript	March 6th „
Loddon and Clavering	E. T. Prior, M.R.C.S.	Printed	„ 25th „
West Lynn	W. Webster, M.R.C.S.	Manuscript	Feb. 11th „
Freebridge Lynn ..	C. B. Plowright, M.D., F.R.C.P.	Typed	March 9th „
Marshland	J. L. Forrest, M.B.	Printed	April 7th „
Mitford and Launditch	D. T. Belding, M.R.C.S.	„	March 20th „
St. Faith's	S. H. Long, M.D.	„	„ 1st „
Smallburgh	B. D. Z. Wright, M.R.C.S. ..	„	April 1st „
Swaffham	E. F. Rose, L.S.A.	Typed	„ 5th „
Thetford	A. Harris, M.B.	Printed	„ „ „
Walsingham	W. H. Fisher, M.B.	„	March 4th „
Wayland	E. F. Rose, L.S.A.	Typed	„ 24th „
Urban Districts—			
Cromer	E. Eddowes Legat, M.B.	Printed	April 3rd „
Dereham	D. T. Belding, M.R.C.S.	„	March 20th „
Downham Market ..	E. G. Wales, M.B.	„	Jan. 28th „
Diss	H. M. Speirs, M.D.	„	March 2nd „
Hunstanton, New ..	B. G. Sumpter, M.B.	Manuscript	„ 3rd „
Sheringham	{ W. J. E. Sumpter, M.D. J. E. Linnell, M.B., D.P.H., Deputy M.O.H.	Typed	April 5th „
Swaffham	A. W. Thomas, L.R.C.P.	Manuscript	March 3rd „
Walsham, North ..	J. Shepheard, M.R.C.S.	„	„ 8th „
Walsoken	H. Groom, M.D.	Typed	Jan. 27th „
Wells	G. Calthrop, M.B.	„	April 10th „
Municipal Boro's—			
King's Lynn	H. C. Allinson, M.R.C.S. (1908)	Printed	May 7th „
Thetford	A. Harris, M.B.	Typed	March 27th „

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THE SHIREHALL,
NORWICH,
July 31st, 1909.

TO THE NORFOLK COUNTY COUNCIL.

MY LORDS AND GENTLEMEN,

I have the honour to submit my Report, as County Medical Officer of Health, for the year 1908.

It deals with various matters of public health interest in a general way, and is illustrated by references to the Reports of the District Medical Officers for the year 1908. The great public health event of the year was the inauguration in the County of the Medical Inspection of School Children, in compliance with the Education (Administrative Provisions) Act of 1907. Though we are at present but on the threshold of this important innovation in public health administration, sufficient facts have already come to light to justify the opinion that the medical inspection of school children will prove to be one of the greatest acts of legislation in the Twentieth Century or at any time. The cordial co-operation of Sanitary and Education Authorities is essential to fulfil the complete measure of its ultimate success. It will prove a source of education in a literal sense to procure what for ages has been recognised as the acme of perfection—“*Mens sana in corpore sano*”—for a much larger proportion of the English people than at present obtains. In securing this end in Norfolk the County Council stand supreme. I have already issued the Report of the School Medical Officer as Part A of the Report of the County Medical Officer of Health. The present Report, dealing with the health and sanitary circumstances of the County as a whole, as well as of its constituent Districts, is now issued as Part B. In the preparation of this part I have to depend largely upon the facts stated in the Reports of the District Medical Officers of Health.

I am glad to record a distinctly noticeable improvement in the general character of these Reports for the year 1908. They are, as a whole, better constructed and more informative, and I have to thank the authors for acting on a suggestion I made to them towards the end of last year, based on the Memorandum issued each year by the Local Government Board relative to the Reports of Medical Officers of Health. All the statistics in these Reports are valuable, and the comments in many of them, based largely on the local knowledge of the writers, are also of great value and importance—not only to the local Councils, but to the County Council and to the Local Government Board. The Annual Report of the Medical Officer of Health is an important document, and should therefore always be printed. There is an improvement in this respect also, and I am glad to note that of the 32 District Reports for the year 1908, 18 were printed, 8 typed, and only 6 in manuscript. I trust that the 14 District Councils which did not authorise the printing of the Reports for 1908 will see their way to doing so in future.

There can be no doubt that legislation trends towards placing upon County Councils more and more important duties in relation to the public health, and the co-operation of all concerned becomes more and more desirable.

I desire to record my cordial appreciation of the courtesy and consideration which I have experienced not only from members of the County Council, but also from members of District Councils, and I have specially to thank those District Medical Officers of Health, who have given up the greater part of a day to enable me to become acquainted with some of the health problems in their respective districts, in many cases placing not only themselves and their valuable time and information at my disposal, but some also most considerately motoring me from place to place on sundry occasions. In this practical way, as well as by a careful perusal of the Annual Reports, it becomes possible to form something like an adequate idea of the strenuous efforts made by some of the District Medical Officers of Health to improve the sanitary condition of their districts. In many instances an enthusiasm in the public service is displayed which is astonishing, considering the slender emoluments received for often arduous and always delicate and highly responsible labours—not to speak of the official

difficulties so often experienced by Medical Officers of Health who conscientiously attempt to properly discharge the duties of their office. The combined knowledge, practical experience, and time expected of a Medical Officer of Health increases year by year, and at the present time not even the incumbency of a remote rural office of this nature can be looked upon as a sinecure.

The County Council caused copies of my first Quarterly Report to be circulated among all the District Councils in the County, with the happy result that the majority of the District Councils decided upon a most important forward step in the prevention of Diphtheria by agreeing to pay for swabs for bacteriological diagnosis in connection with cases of Diphtheria, particularly before allowing re-admittance to school. The scientific control of Diphtheria involves much more than this, but it is encouraging to note that the District Sanitary Authorities realised the importance of the step recommended.

I make further reference to this and several other important matters elsewhere in this Report.

CHANGES IN AREA AND POPULATION OF THE COUNTY.

The two parishes of Sprowston and Catton, in the Rural District of St. Faith's, were taken over by the City of Norwich in November, 1907. The estimated transferred population of these two parishes is 2,126, and the acreage transferred appears to be in all 308 acres.

This transfer has been allowed for in the vital statistics of St. Faith's Rural District and of the County as a whole. The acreage of the Administrative County given in the Norfolk County Council Year Book is 1,303,488. The Census (1901) population was 313,504.

CHANGES OF PERSONNEL IN ADMINISTRATIVE OFFICERS.

In the middle of the year Mr. H. G. Foster, who had been Medical Officer of Health to the Rural District Councils of Swaffham and of Wayland for many years, died after a prolonged illness. Mr. E. F. Rose, L.S.A., was appointed his successor for the Wayland District in September, and by the Swaffham Rural District Council in December.

Mr. Parrott, who had for many years done good work as part-time Inspector of Nuisances in the Downham Rural District, resigned because of a consciousness of the fact that a whole-time Inspector was necessary for modern requirements in so extensive a district. His successor had not been appointed when the Medical Officer of Health's Report was issued.

POPULATION. BIRTHS AND DEATHS.

The estimation of the population of the County at this period of time, eight years since the Census, must be more or less a matter of guesswork. Still there are methods of adducing evidence which justify certain conclusions. The Reports of the Registrar-General year by year shew a very pronounced fall in the birth rate of England and Wales generally as compared with the birth rate in the year 1901. This being so, if in any particular district the birth rate remains fairly constant, it is evidence of a kind that that district is either not sharing in the general downward trend of the country as a whole, or that its population cannot be materially decreasing. In one or two Rural Districts in this County such an argument might be raised against its depopulation in the same proportion as obtained during the ten years 1891-1900; but for the County as a whole, as for the rest of the Kingdom, there can be no doubt that during the intercensal period 1901-1908 there has taken place a very serious decline in the birth rate. Fortunately this is counterbalanced in some degree by the markedly satisfactory declension in the death rate. Though the diminished death rate may in some small part be due to the decreasing birth rate, this is not by any means the chief reason, because the infantile death rate or mortality among infants under one year of age per thousand *births* has also been very materially reduced during the last two or three years.

The large Table of Vital Statistics for the Administrative County which I have prepared from the statistics given in the tables attached to the 32 District Reports, shows that the estimated population for the whole County in 1908 was 315,655; 60,488 in the 12 Urban Districts and 255,167 in the 20 Rural Districts.

The following tabular statement gives the crude *Birth* and *Death* Rates for the Rural and Urban Districts and for the whole Administrative County, compared with the rates for England and Wales as a whole and England and Wales less the 218 large Towns :—

Estimated Annual Rates per 1000 living, 1908.

		Birth Rate.	Crude Death Rate.	Corrected Death Rate.
Norfolk—Rural Districts	..	22·94	13·78	..
Urban Districts	..	22·68	13·65	..
Whole County	..	22·88	13·76	11·61
England and Wales	..	26·5	14·7	14·7

Applying the factor for correction for age and sex distribution (which for Norfolk is 0·8262 according to the Registrar-General), the *corrected* death rate for the Administrative County is reduced to **11·61**, which compares favourably with 13·8 the corrected death rate for England and Wales less the 218 bigger towns. A curious feature in connection with the above birth and death rates is that they are exactly identical with the rates which were calculated for the year 1907 for the Administrative County.

Infant Mortality.

Since births and deaths are compelled to be registered by law, the measure of the infant mortality is a more dependable factor than the general death rate at so long a period as eight years after the most recent Census. Considerable importance therefore attaches to the figure of infantile mortality. A high infant mortality is indicative of a tendency to moral degeneration; of parental ignorance and apathy; or of insanitary conditions prevalent through lack of proper systems of excrement and refuse collection *and disposal*. One or more of the above factors may work in unison. Dr. Back, M.O.H. for Aylsham and Blofield, draws attention to the fact that it is a far more difficult matter to obtain a regular supply of cows' milk in the country than it is in towns where a regular door-to-door service obtains. He rightly points out that this is not altogether to the disadvantage of the country baby, since breast feeding is thereby encouraged. The long-tubed feeding bottle ought certainly to be penalised. It is impossible to efficiently clean the long rubber tube, which soon becomes a veritable incubator for germs, particularly in warm weather; and this foul bacteria-breeding tube is unquestionably a factor to be considered in suggesting measures for the amelioration and prevention of infantile suffering and mortality. As has been pointed out by those interested in the question of infantile mortality for years past, the surest way of reducing infantile mortality is by educating mothers that are, and mothers to be, in the care and feeding of infants. The Norfolk Nursing Federation is doing work in this direction, and some of the District Councils have authorised the issue of instructive pamphlets to mothers at the time they register the births of their children. Since six weeks is at present allowed by the Births and Deaths Registration Act for the registration of births, an infant may be dead and buried before its birth is even registered and the pamphlet handed to the mother. It is therefore worth the consideration of those District Councils which are endeavouring to reduce infant mortality by organised effort, whether they should not take steps towards adopting the Notification of Births Act. But such notification would be useless unless systematic arrangements were made to follow up notification, without undue delay, by visits of inquiry and advice, both orally and by pamphlet, and preferably still further, by occasional supervision during the period of infancy. It may be, before long, possible to suggest some provision of this kind by arrangement with the Norfolk Education Committee, when that body has to seriously consider the provision of treatment or amelioration of certain defects among children, which have been revealed as a result of the medical inspection of school children.

A further reason for seriously considering the advisability of adopting the Notification of Births Act is the apparent increase of deaths among infants attributed to, and certified as due to, *Premature Birth*. These premature births point to ante-natal causes at work, which require serious investigation on the part of medical men, especially in Rural Districts where female labour is little employed. Bronchitis and Broncho-Pneumonia are also causes of death in undue amount among infants. Here early advice and instruction may be of some avail;

but the following quotation from the Report of the M.O.H. for Blofield Rural District arrests attention:—"The badly-ventilated, draughty cottages, with ill-fitting doors, in which many of the infants of the poorer classes in the County are reared may be held responsible for some of these" [Bronchitis deaths].

Dr. Cross, Medical Officer of Health, Downham Rural District, rightly says—"Bad motherhood is comparatively seldom wilful. It is generally due either to ignorance or to inability to cope with the circumstances of life."

The Medical Officers of Sheringham attribute the improvement in the infant mortality rate in that town during the last six years to—

(a) Instructions as to feeding given to the mothers on the birth of the child

(b) Watering of the streets during dry weather.

The main object of the Notification of Births Act is that the mother may be instructed as to the feeding and care of her infant, in the event of such instructions not having already been given her by a properly-qualified doctor; to enlighten the dark ignorance mentioned by Dr. Cross; and to secure the happy results attributed to enlightened instructions by Drs. Sumpter and Linnell in Sheringham.

Owing to a very high proportion of premature births, out of a total of 64 births at Cromer, the infantile mortality figure for that town is out of all proportion. The figures for each town are too small for fair comparison between each; but for the 12 Urban Districts, with a total estimated population of 60,488, there were 1,370 births, and 144 deaths occurred among infants under one year of age, giving an infantile mortality for the Urban Districts of 105, as compared with 89·6 in 1907. In the 20 Rural Districts, with an estimated population of 255,167, there were 5,855 births and 598 infantile deaths, giving an infantile mortality of 102·13, as compared with 92·0 in 1907. For the whole Administrative County the *infantile mortality figure* works out at 102·69, as compared with 91·82 in 1907. This compares with a rate of 121 for England and Wales as a whole, or 110 for England and Wales less the 218 larger towns, or 109 for the Registration County of Norfolk (which includes Norwich and Yarmouth). The position of Norfolk was an average one—in this respect,—since there were no fewer than 21 Registration Counties in England and Wales which had an infantile mortality of less than 100, as given by the Registrar-General in his Annual Summary for 1908.

Deaths of Children under 5 years of age.

Measles and *Whooping Cough* were responsible for a large proportion of the deaths under 5 years of age, accounting for 182 out of the 989 deaths of children under 5. 66 deaths of children under 5 were due to Measles, as compared with 13 deaths in 1907; 116 deaths of children under 5 were due to Whooping Cough, as compared with 57 in 1907; so that the mortality from these diseases was five times as great as in the previous year from Measles and twice as great from Whooping Cough. Diarrhoeal diseases accounted for 34 deaths, as compared with 33 in 1907 among children under 5. Phthisis and other tubercular diseases were certified as the cause of 43 deaths; and Bronchitis, Pneumonia, and other lung diseases as the cause of 169 deaths among children under 5 in 1908. A large proportion of these preventable deaths will be prevented in the course of time—when hygienic instruction has permeated into our cottage homes, and when all District Councils have realised the impossibility of a family being brought up hygienically in a two-bedroomed cottage, badly ventilated and draughty. The powers of the County Council and of the District Councils will be enlarged as regards such houses when the new Housing, Town Planning, etc., Bill becomes law.

ZYMOTIC DISEASES.

When sanitation first began to be boomed it was thought by the majority, as it is still thought by a very large number of persons, that all the zymotic diseases originated in filth or bad smells, and that *Epidemics* were due to insanitation pure and simple. A very little consideration will shew the fallacies of such a view—but this is not the place to deal with the matter fully.

Modern scientific knowledge has demonstrated that whatever part may be played by insanitation in lowering vitality, and in affording in some way a nidus for various forms of bacteria, and even more especially for the development of various flies which can act as *carriers* of infection, the chief part played in most *Epidemics* is direct infection *from person to*

person. It is thus that diseases like Small Pox, Cholera, Influenza, Measles, Scarlet Fever, and Diphtheria are generally spread from street to street, from village to village, from town to town, and even from country to country. Such pandemic diseases as Small Pox, Cholera, and Plague spread on the lines of travel, and can be carried by infected persons across the ocean.

The part played by personal infection is quite independent of that played by insanitation. An insanitary town or district means a carelessly administered town and district. Insanitation means collections of decomposing and putrefying organic refuse, which foul the air, possibly endanger water supplies, and constitute fermenting deposits admirably adapted for the breeding of flies and other obnoxious creatures. Thus in various ways insanitation is a danger to health—by lowering the general vitality, or by breeding flying insects or other locomotive animals which may carry the germs of disease and thus aid in the spread of disease—but human carriers naturally play the most important part. Hence the supreme necessity of notification and efficient isolation of patients, and disinfection of their infected surroundings and clothes.

PREVENTION OF DISEASE.

This depends on a knowledge of the causes and nature of each particular disease, and hence public bodies are peculiarly dependent upon medical advice; and Medical Officers of Health, if they are to advise well, need to give special attention to keeping themselves *au courant* with recent discoveries, which are taking place at an unprecedented rate; and, in order to properly appreciate modern research, those are best equipped who have taken out a post-graduate course in public health, and have familiarised themselves with modern methods of research, of pathological and epidemiological enquiry, and of sanitary exploration.

In connection with all zymotic or infectious diseases there are two general essentials for each—(1) an infective germ, (2) a suitable soil, in other words, a susceptible body in which the germs can flourish. An attack of a particular disease, due to a particular germ, as a rule has the effect (if the patient survives) of rendering the infected person proof against that particular disease thereafter. Second attacks of Small Pox and of Typhoid Fever are exceedingly rare. On knowledge of this fact is based the practice of preventive inoculation. The explanation of this fact is that the behaviour of disease-causing germs in the body is similar to the action of a living ferment such as yeast in a sugary solution. The sugar is broken up by the ferment into carbonic acid gas and alcohol; but when the alcohol has attained a certain percentage the living ferment is killed, or its fermentation inhibited, and no further alcohol is formed; nor can the fermentative action be re-induced by fresh germs, except in a very small degree. So in disease, if the patient survives long enough, the causal germs in time are inhibited by their own products, and not only does recovery ensue, but the tissues of the body are rendered immune in a greater or less degree, sometimes almost absolutely, to that particular form of disease for the future.

The *FUNCTIONS OF PUBLIC HEALTH AUTHORITIES* may be divided into—

(1) Those, of a general kind, which aim at improving the resistance of the inhabitants of their respective districts to disease by improving their environment in the way of well-ventilated, clean, dry habitations, a reasonably safe water supply, effective systems for the removal and disposal of waste products and refuse, the abatement of nuisances, etc. It has taken a century to persuade ordinary citizens that their environment of house or street and air is after all in some measure their own creation.

(2) Those, of a particular kind, relating to an infected individual and other individual persons immediately around him, including the provision for notification, isolation (in some cases the provision and administration of isolation hospitals), official inspection, and inquiry into the causation of the disease, the latter including the use of special bacteriological or other scientific laboratory methods of inquiry.

Only of recent years has been recognised the importance in this way of tackling the problem of fitting the man for his environment.

Though a well-trained Medical Officer of Health naturally is interested in and acquaints himself as far as possible with the methods and means of procuring what is desired under the first group, it is in connection with the second group of functions that his *medical* training and experience are a necessity to his Council. Indeed, to adequately fulfil all that is or may be required of him in this group he needs to be a highly-trained specialist in preventive medicine, skilled in epidemiology and in administration in relation to infectious diseases (each form of infectious disease requiring some differences of treatment, as regards administration, in detail), and well versed in all the ramifications of medicine into the realms of proto-zoology, botany, geology, bacteriology, chemistry, vital statistics, logic, sanitary engineering, etc.

Even to a skilled medical man difficulties often present themselves in dealing with infectious diseases, for though in some cases these may be characterised by well-marked and unmistakable symptoms, in other cases the symptoms may be slight and obscure, but the patient perhaps as actively infectious as in the unmistakable cases. Mild cases of Scarlet Fever or Diphtheria occasionally produce such slight symptoms that parents do not see any necessity for calling in medical advice, or even if seen in a casual way by a medical man may escape diagnosis. For the discovery of still milder forms of disease than were formerly recognised we have to thank compulsory notification and the inquiries subsequently instituted by competent Medical Officers of Health, aided by modern methods of bacteriological diagnosis and research. The importance of the very mild case is its danger to other persons. In the person of anyone connected with a milk supply infection may be spread by milk far and wide. In connection with Diphtheria we have now advanced on the rule of thumb method of fixing a period of isolation. Experience, aided by laboratory research, has definitely taught us that infection may be long continued after convalescence has been established, and hence the wisdom of not releasing a person from isolation until the patient is pronounced as bacteriologically free of infection.

Finally, we have learnt that even in the absence of a definite case of disease as a starting-point, epidemic influences may invade a district hitherto free, through the unconscious epidemic influence of a "carrier," who may be apparently in good health. Such a source of infection can only be tracked down with the aid of bacteriological research after carefully-undertaken epidemiological inquiry has indicated the probable "carrier."

Surely this all points to a wider and freer use of bacteriological laboratories, and to further help being sought by public health authorities from the medical profession in the recognition of disease and infection, allowing a fee for the taking of specimens when such work is necessary in the interests of the public health.

When the importance of such work and aid has been fully recognised it naturally results in the long run in the formation of a county laboratory, for each county supplies ample material to justify the existence of such an institution under the supervision of the County Medical Officer of Health, who is in touch with all the District Medical Officers.

It will, however, naturally be a long time before we gain complete control over infectious diseases, because of the personal difficulties which are associated with social conditions, the result of ignorance, carelessness, poverty, and misplaced sympathy.

"Every Medical Officer of Health from his experience has realised what an amount of ignorance, carelessness, and indifference to infectious disease exists in the poorer classes of the community." It will necessarily take years of educative hygienic effort to secure individual realisation of responsibility and duty, and consequent action. Could our present knowledge of Diphtheria be imparted to every individual family and individual practitioner, we should at once see a most astounding fall in the incidence and death rate from this disease. As in almost every other human endeavour, co-operation is essential in the fight against disease and infection. Ideally, such co-operation necessitates first the properly-remunerated services of highly-trained medical experts, untrammelled by the demands of private practice, to study the causation and indicate the measures and precautions necessary for the prevention of disease, the provision of the necessary machinery by the public health authorities, and the individual efforts of the individual members of the public to do their part in following out the precautionary advice which should be fully and freely given them by public health authorities, in printed form, as advised by their Medical Officers of Health.

But such ideal methods are far from realisation as yet in the majority of rural districts and areas, though some of the great towns have advanced considerably on such lines.

The above remarks may serve as an introduction to further notes on zymotic diseases in the County of Norfolk during 1908, freely illustrated by quotation from the District Reports.

INFECTIOUS OR ZYMOTIC DISEASES.

SMALL POX.—Happily this disease was again conspicuous by its absence, but that the County is becoming less protected against any future invasion is only too evident from such of the District Reports as give any information on Vaccination statistics. To those who, like myself, have had to deal personally and practically with outbreaks of Small Pox the protecting influence of *efficient vaccination* is no mere matter of academic discussion, but one of solid comfort and assurance. It has fallen to my lot to demonstrate in a Small Pox hospital to an “anti-vaccination” parent, in the persons of himself and of his own children, the modifying influence of his own 32-year-old vaccination, the immunity from attack of his eldest 12-year-old vaccinated child, and the loathsome appearance and imperilled condition of his other unvaccinated children attacked with Small Pox.

The following references to *VACCINATION* occur in the Reports :—

Aylsham.—Dr. Back gives the actual figures for the two Sub-Districts, and I venture to suggest to other Medical Officers of Health that similar information for all Districts may prove very valuable when the next outbreak of Small Pox occurs. Commenting on these, Dr. Back says :—“It will be seen from the above account of vaccination for the year that the new Vaccination Act has not affected the number of primary vaccinations in the Eynsford Sub-District. There were but five children for whom exemption was claimed as against six in the year before. In the Buxton Sub-District on the other hand there has been a large increase in the number of exemptions. The births in this Sub-District for the year numbered 210, and the primary vaccinations only 141, which is not a satisfactory state of affairs. My enquiries into the amount of re-vaccination carried out in the District shows that the public do not take advantage of the complete protection from Small Pox offered by free re-vaccination.”

The new Vaccination Act referred to by Dr. Back came into force on January 1st, 1908, substituting a statutory declaration of conscientious objection for the certificate required under the Vaccination Act of 1898.

Blofield R.D.—Dr. Back again gives the vaccination figures for this District and comments on them as follows :—“It will be seen that advantage has been taken of the greater facilities afforded by the new Vaccination Act for ignorant and careless parents to deny their children protection against one of the most terrible infectious diseases known. Up to the present the District has been well protected, so far as primary vaccination went, but looking to the future it is to be feared that there will be an ever-increasing number of young persons altogether unprotected by vaccination. This fact should be borne in mind when considering my suggestion with regard to the provision of an isolation hospital for Small Pox.”

Downham R.D.—Dr. Cross says :—“There will soon be quite a considerable number of children unprotected by vaccination. Roughly, one-third of the newly-born infants during the year have been exempted. In one Sub-District there were 99 vaccinations and 42 exemptions, as compared with 115 vaccinations and 8 exemptions in 1907.”

West Lynn R.D.—Dr. Webster says :—“Vaccination is in abeyance in the District.”

Walsingham R.D.—Dr. Fisher gives a table of vaccination exemptions for the last ten years, and comments as follows :—“The number of exemptions from vaccination is more than double of any previous year, and re-vaccination is only asked for by those who are entering Government employment. The isolation hospital at Thursford, accommodating two patients, should be kept in reserve solely for use in Small Pox cases, and should a case be imported we should have to take greater precautions with the contacts in a poorly vaccinated district, as this will become at the present rate of vaccination.”

SCARLET FEVER.—In 1908 there were 570 cases of Scarlet Fever notified in the County, and 7 deaths occurred, giving a morbidity rate and a zymotic death rate of 1·80 and 0·02 respectively for the Administrative County. The case mortality was 1·23. The zymotic death rate of 0·02 compares with 0·08 for England and Wales, and 0·05 for England and Wales less the 218 principal towns.

The Table I have prepared for the County as a whole in connection with Notifiable Infectious Diseases shows among other things the incidence per 1000 population for each Sanitary District. Among the Urban Districts, Sheringham and Swaffham, and among the Rural, Downham, suffered most severely, as regards incidence, though neither of the Urban Districts mentioned registered a death.

As throwing a sidelight upon indications for hospital isolation, and other points, the following quotations or extractions from the District Reports may be helpful:—

Blofield.—"Ten cases were notified from Thorpe St. Andrew, and formed part of a tedious outbreak protracted into 1909. Seven cases (affecting three families) in the North end of Blofield and the adjoining parish of Hemblington."

Depwade.—"The case of a child suffering from Scarlet Fever in a van situated in Carleton Rode was reported to me, and although the father of the child (the van owner) was offered fair compensation and a resting place for his van, he took his infected van and child and moved to Norwich on his own responsibility. Naturally this procedure was strongly resented by the City Sanitary Authority, and various discussions took place." The Rural Council have adopted bye-laws to enable them to deal with similar cases in the future.

Docking.—"At Stanhoe cases of Scarlet Fever kept recurring in a suspicious manner. A large proportion of adults were attacked. No general cause could be found."

St. Faith's.—12 cases occurred in 6 families, 4 in one, 5 in three, 2 in one, and 1 in one. This last case appeared to indicate a dormant infection, either through fomites or clothes, as suggested by Dr. Long; or possibly, as I might suggest, through recrudescence of infective power in the foster-mother, who had had an attack of Scarlet Fever a year previously in London.

Downham R.D..—"The outbreak on the Ten Mile Bank was possibly a recrudescence of the outbreak in 1906, or due to contact from the cases that occurred in Hilgay village two months earlier. Several families were infected before I became aware of the outbreak. In one family alone six children were found to be "peeling." The School was closed for several weeks. There were two fatal cases. Prosecution of a case of wilful exposure led to a conviction being obtained. Another outbreak affecting the parishes of Crimplesham, West Dereham, Wereham, and Boughton commenced in September. The first case in Crimplesham was well isolated and every precaution taken. Two other families subsequently were notified. There is but little real communication between this village and the next to become infected, but I have reason to suspect that this did take place, and soon afterwards I was called to see a patient at West Dereham. This patient lived in a small row of four well-isolated cottages, whose children attended the School at Wereham, which I immediately visited and there found several children with sore throats and other suspicious symptoms, and several absent. These were visited, and there is no doubt that some of these had had Scarlet Fever. The School was immediately closed. The cases at Boughton occurred from contact with the Wereham cases. An outbreak occurred in this village in 1907. Some of the cases were of a more severe type than has been usual of late years, and the four fatal cases were of a malignant type. . . . As a rule it was generally the later cases in a family who had the disease more severely. The slight outbreak at Hilgay was probably spread by the agency of some modelling clay used by a class in the School."

Forehoe.—"Four cases only were notified during the year. I attribute this decrease to the disease having as it were burnt itself out, and to the large number of children rendered immune by previous attacks of the disease."

Freebridge Lynn.—A child with Scarlet Fever "was removed to her parents' house, when five other members of the family took the disease."

Smallburgh.—"In my experience the mild cases, many of which escape notification, are responsible for much of the difficulty in stamping out an outbreak in Rural Districts."

Walsingham.—"I regret to say that the parents endeavour to conceal the existence of the disease, very largely from the quarantine involved."

Wayland.—Four cases of Scarlet Fever occurred "in neighbouring houses in Attleborough."

Swaffham U.D.—A cottage in the Watton Road on the outskirts of the town was utilised for the isolation of the cases.

TYPHOID FEVER, OR ENTERIC FEVER.—There were 167 notified cases and 23 deaths in the Administrative County during 1908, giving an incidence rate of 0·53 and a zymotic death rate of 0·07 (the same as for England and Wales as a whole), and a case mortality rate of 13·9.

In my County Report for the year 1907 I outlined the chief channels of infection in connection with this disease.

During 1908 the evidence against *shell fish* was very strong in certain districts. In others, though the Medical Officer of Health is cautious in attributing the illness to shell fish, some interesting and suggestive histories are given. Thus in the Aylsham R.D., Dr. Back in commenting on a case of Enteric Fever at Marsham says:—"There was discovered no clear evidence of the origin of the infection, but it is interesting to note that the patient informed me that she seldom ate shell fish, but on Saturday, November 29th, she enjoyed some cockles, and was taken ill with her attack of Enteric six days after that date. The cockles were from Brancaster."

With respect to the origin of the cockles, my investigations in 1908, on behalf of the County Council, showed the slight possibility of human sewage pollution of a certain laying at Brancaster, though probably the greater proportion of the layings in this neighbourhood would not suffer pollution. For this reason, only a very small proportion of persons eating cockles from Brancaster would be likely to be injured in health through dangerous pollution of the shell fish. Since my visit, Dr. Sumpter, M.O.H. for Docking Rural District Council, reports that the drain which carried the sewage of six houses into the creek, within 200 yards of the cockle layings, has been diverted, and he is of opinion that "the shell fish from Brancaster Staithe are now unlikely to cause illness." Another cockle coincidence, if nothing more, is reported by Dr. Back:—"The patient told me that seven days before he was taken ill he had eaten cockles, but previous to that he had eaten no shell fish for months."

In *Freebridge Lynn* five cases were notified during the year. Two fatal cases had partaken of clams within a few weeks of the onset of illness. Two of the three remaining cases were secondary to one of these fatal cases, and one of these was also fatal. Clams appear to be more associated with Enteric Fever in the Freebridge Lynn District than in any other district or town I know, whether in Norfolk or elsewhere, whereas inquiry as regards cockles and mussels appears to be invariably negative in Freebridge Lynn. Dr. Plowright makes some interesting observations which are suggestive as to the reason for this strange inculcation of a form of shell fish which only occasionally is found to be associated with Enteric Fever in other districts. He notes that the cockles and mussels sold in his district are derived from the fishing grounds—so far away (six or eight miles) from the town of Lynn as to be practically beyond the zone of suspicion,—but clams are obtained much nearer the river's mouth.

In *Mitford and Launditch* Rural District seven Typhoid cases were notified in six parishes. Two cases had partaken of shell fish (cockles) shortly before they fell ill.

Although Lyng had only one notification, there is reason to believe this was secondary to an unrecognised case, and a third case removed to Norwich was traceable to this group. In three of the remaining cases the water supply was bad.

In the *Forehoe* District four cases occurred at an isolated house known as Mystery Farm, where the water supply was impure and filthy conditions existed. Dr. Lack further reports:—"Your Medical Officer of the County, who also visited this place, attributed the outbreak of the disease at Mystery Farm to the eating of shell fish in Norwich, James Blake, the first person attacked, having been in the habit of partaking periodically very freely of such fish."

It would be as well to here reproduce part of my own Report on this matter to the County Sanitary Committee, for it shows not only that the first case of Typhoid Fever could as easily be attributed to polluted oysters as to any other cause, but also that the three other cases were distinctly secondary and might have occurred through unskilled nursing of the first case, or equally, if not more probably, through the direct agency of *flies* in carrying infective matter from the patient to the persons or food of the secondary cases. Had the insanitary conditions or the polluted water been to blame, the four cases of Typhoid Fever would have been more simultaneous in date of origin. The insanitary conditions certainly played a part, inasmuch as they accounted for the enormous hordes of flies.

The following is the quotation from my own Report :—“ The occupier is a pig-breeder and owns a field on either side of the stream. On one side is his house and outbuildings. There had been 13 members of the family sleeping in 4 rooms. The pigs on the establishment generally number over 100 at a time. In addition there are 5 horses, 4 dogs, and many poultry. Needless to say, flies were very numerous in the house. The pigs' and horses' excreta are thrown down a bank which slopes towards the river, which is about 40 yards distant. This accumulates until periodically removed by a neighbouring farmer. The slop-water of the house is poured down a gulley which drains towards the river.

“ A curious fact which I elicited was this—although the chief object of my visit was to safeguard the large population of the City of Norwich from possible pollution of the water supply by typhoid excreta from this farm, I found that Typhoid Fever had occurred at this farm through the eldest son weekly visiting Norwich, where he was in the habit of eating oysters every Saturday in the Pig Market. Oysters came into season on August the 4th. This man ate some on the 8th and was the first person at the farm to fall ill with Typhoid Fever about the 20th. His mother, who nursed him, was the next victim, and two or three other secondary cases occurred in the family, where the crowds of flies may easily have played a part in carrying infective material to food, for I found that although the Doctor in attendance had given instructions to bury the infective excreta, this was being very imperfectly and unsatisfactorily carried out.

“ I would suggest that printed carefully-worded instructions as to the precautions which should be taken in cases of dangerous infectious diseases should be issued by the various District Councils concerned, at the time of the Inspector's visit after the case has been notified. No doubt this is done in some districts, but it should be carried out in all.

“ As in all probability the methods of disposing of pigs' and other animals' excreta which prevailed at this farm are not limited to this farm, it might be worth while to further suggest that the excreta should be placed directly on a cart for removal, an empty cart being substituted for the full one at the time of removal. Such manure should be at once buried under two or three inches of earth, which will not hinder ripening, which will save loss of ammonia and consequently of nitrogen, and will lessen the risks of pollution being carried to a neighbouring stream in time of rain. Further, such collections of excreta are breeding-places for flies, and if well covered over with earth the annoyance and dangers of flies may also be largely discounted.”

In *Wells-next the-Sea*, Dr. Gordon Calthrop writes :—“ There were in all *twelve cases of Typhoid*, including one case which developed the disease elsewhere, though it was contracted here. Fortunately there was only *one death* from the disease. The epidemic started in June in perhaps the most insanitary and filthy household in the town. Cases then occurred at intervals in various parts of the town; most occurred in the East end, but one in the West and four in the South part of the town. It was fairly obvious that the water supply was not to blame, as no one supply was common to the various localities; neither was contaminated milk the source of infection. Fearing lest the mussel lays had already been or might become contaminated with the typhoid germ, on the advice of the County Medical Officer of Health, who paid a visit of inspection to the town, samples of mussels were sent to an expert bacteriologist in London to be examined. He reported that there was positive evidence of sewage contamination, and in consequence the Urban District Council issued an order prohibiting the sale of mussels.

“ Attention having been drawn to the danger which I pointed out in my Annual Report for 1902 existed in allowing the slop-water of the town to discharge themselves along the

foreshore close to the mussel lays, steps have been taken to obtain plans for diverting the outfalls from the proximity to the mussel lays. The consideration of these plans is now before the Council."

Other causes mentioned in connection with cases of Typhoid Fever include water supplies from wells liable to pollution. Dr. Back, in his report on Blofield, gives an interesting illustration of secondary infection from one member of a family to another through unskilled domestic nursing.

His concluding sentence in connection with this series of cases opens up a big question—the very question, indeed, which will need facing from another point of view in connection with treatment which should follow in remedying defects found among school children in the course of medical inspection. "The position in life of the patients was such as to preclude them from parochial assistance, and at the same time they were quite unable to afford the heavy expense attendant on the employment of a trained Nurse for several weeks."

Dr. Back refers to Section 67 of the Public Health Acts Amendment Act, 1907, which permits of provision of nursing attendance by a local authority and recommends the District Council to apply to the Local Government Board for an order to declare Part IV. of the Act to be in force in the district. But in view of paragraph (3) of Section 67 I think it is doubtful whether the Board will sanction this provision so long as a Sanitary Authority fails to provide an Isolation Hospital for its district.

Docking R.D.—Dr. B. W. Sumpter, in commenting on an outbreak at South Creak which was associated with a contaminated well, draws attention once more to what sanitarians have been insisting upon for years, "the advisability of converting all draw-wells into pumps and of doing away with cesspools in all districts where the water is obtained from wells and where space is limited."

Downham R.D.—Dr. Cross says a case at *Ten Mile Bank* had partaken of the river water.

East and West Flegg.—Mr. Royden makes no comments on the 9 cases which occurred in the *Ormesby-with-Scraby* Sub-District.

In *Forehoe* 9 cases occurred, one of which was imported, while Dr. Lack thinks four others were due to impure drinking water. Four cases at Mystery Farm, where filthy conditions existed, and the water was also impure, have already been referred to in a previous paragraph.

In the *Wayland* District Mr. Rose reports four cases in New Buckenham, which occurred in two adjoining houses, "three in one house in the early part of the year, and one in the next house at an interval of several months." This last case suggests the *possibility* of one of the three earlier cases being a "carrier" of typhoid germs, as does a further illustration at Kenninghall, where two cases occurred in one house at an interval of some months. Mr. Rose says of one: "I investigated the last case but was unable to trace the probable source of infection." The source I have suggested could only be demonstrated by prolonged expert bacteriological inquiry.

In the *Walsingham* District Dr. Fisher reports the possibility of a "carrier" in connection with two cases at Holkham. Five cases at Great Ryburgh had a common polluted water supply.

In the *Smallburgh* District two cases had an unsatisfactory water supply; the third was apparently imported.

DIPHTHERIA.—During 1908 there were 308 notifications of this disease in the Rural Districts and 42 in the Urban Districts, making a total of 350 notifications in the Administrative County, giving an incidence rate of 1.20 in the Rural Districts, 0.69 in the Urban, and 1.10 for the whole County. Forty-six deaths in the Rural Districts and 6 deaths in the Urban Districts indicate a zymotic death-rate for Diphtheria of 0.18 in the Rural Districts and 0.09 in the Urban Districts, and 0.16 for the Administrative County. This compares with a rate of 0.15 for England and Wales less the 218 principal towns.

On June 20th, 1908, Mr. Richardson, M.O.H. to the Erpingham Rural District Council, consulted me with respect to an outbreak of Diphtheria at Briston School, which had been closed in consequence. I advised as to how to act with respect to swabs and bacteriological investigation upon the reopening of the School. In his report for Erpingham Rural District

the following reference is made to this. "At Briston the outbreak was traced to a carrier in the School. Frequent swabbings were taken of throats and cases verified in this manner. Careful isolation and disinfection were carried out, with the result that the outbreak was entirely suppressed."

In September, 1908, I made a Report to the County Sanitary Committee, and I was instructed to send a copy of it to all the District Medical Officers of Health. The following paragraph related to Diphtheria:—

"In districts where hospital isolation is not provided or is otherwise impracticable, it would be well if the District Council provided, free of charge, not only therapeutic doses of antitoxin for the patient, but the prophylactic doses for children who had been in contact with the patient, when Diphtheria breaks out among the poor. For the prompt recognition of mild cases of Diphtheria, and to ensure that a convalescent is not too soon allowed to mix with other children, the provision of swabs to the medical practitioner and an arrangement with a reliable bacteriological laboratory to examine and report on such swabs are necessary factors in a sound preventive administration in connection with the management of Diphtheria. The provision of a County Laboratory, which I should be pleased to administer, having had an extensive bacteriological experience, would prove a great advantage, not only to the Districts in particular, but to the County in general. Subsequent disinfection of clothing and premises should also be efficient, and not merely haphazard, as is too often the case."

In the meantime I had circularised the District Medical Officers as to the advantage of requiring or advising that no child should be permitted to return to School after an attack of Diphtheria until at least one swab had been taken from its throat and reported as free from the Diphtheria bacillus. Many of the district reports make reference to this, and agree as to its importance.

Adequate and frequent resort to efficient bacteriological aid is, indeed, absolutely essential, in order to exercise scientific control over Diphtheria—but, of course, it is necessary that the bacteriological examinations should be conducted by an experienced expert.

Where bacteriological aid is not sought, we are liable to have repetitions of sudden recrudescence of Diphtheria such as are recorded by Dr. Back in his Report on the health of *Aylsham* R.D. This is indicated by the fact that three out of the six parishes affected in this district in 1908 had also been involved the year before. The two deaths in this district were, as usual, due to non-recognition by the parents of the serious nature of the disease, until too late. Dr. Back further remarks:—

"Prophylactic injections of antitoxin have been used with good effect in limiting outbreaks. Towards the end of the year arrangements were made by the Sanitary Committee for bacteriological examinations to be made of swabs taken from throats of children who had recovered from Diphtheria, so that no child should return to school unless its throat was shown to be free from infection. This action of the Committee was taken at the instigation of the County Medical Officer of Health, and of its importance there can be no doubt, since again and again such examinations have shown that a child, who has apparently perfectly recovered from its illness, may retain in its throat specific infection capable of transmitting the disease to others."

In his Report for *Blofield*, Dr. Back makes the following note:—

"DIPHTHERIA.—Notification was received of eight cases of Diphtheria, one being fatal. Three were isolated cases, independent of the others, and the remaining five occurred in that part of the parish of Limpenhoe known as 'The Common.' This locality consists of a few acres of land raised only a foot or two above the marsh by which it is surrounded. It carries several cottages, and its chief crops are Enteric Fever and Diphtheria. Though efforts have been made towards improvement, the sanitation of this patch remains very unsatisfactory.

"The water supply and the drainage are alike a difficulty.

"In all cases of Diphtheria among School children a certificate from a medical man, stating that the throat has been shown by bacteriological examination to be free from infection, is required before the child can return to School."

Although in the *Downham* Rural District there were no *notifications* of Diphtheria, three deaths occurred from Membranous Croup, which is almost invariably a laryngeal form of Diphtheria, requiring bacteriological aid during life to confirm the presence of the Diphtheria bacillus in the larynx. The Medical Officer writes :—

“For the better control of cases of Diphtheria your Council has for some years sanctioned the free supply of antitoxin in the poorer cases, and have also lately granted me permission to have bacteriological examination made of the condition of throats of all children recovering from Diphtheria before being allowed to return to school.

“There were three deaths from Membranous Croup. The first case died within a few hours of being medically seen. I visited the premises and found a foul ashheap belonging to another house in the row. Otherwise the premises were satisfactory.

“At St. German’s a child died suddenly. An inquest was held, and the verdict of Membranous Croup returned. I was not notified of this, but seeing an account in a local paper I requested your Inspector to visit. Nothing insanitary was found, but the house showed signs of poverty and neglect. Shortly afterwards another child was notified, and this case also proved rapidly fatal.

Dr. Lambert Lack reports from *Forehoe* as follows :—

“Twelve cases have been notified, occurring in the parishes of Wymondham, Marlingford, Barnham Broom, Runhall, Welborne, and Costessey.

“Strict notification was enjoined in all these cases, with subsequent disinfection. I wrote to your Council advising a bacteriological examination in every doubtful case, and Dr. Nash further advised that no child who had been certified as suffering from Diphtheria should be allowed to return to school unless a Medical Certificate be produced certifying that a bacteriological examination of the throat products had been made and the child pronounced free from Diphtheritic germs. These suggestions have and will be carried out, your Council consenting to pay the fees for such examinations.

“As an illustration of the necessity for these examinations, may I quote the following case occurring in this Union :—‘A.B. contracted Diphtheria, and when apparently quite recovered, an examination of the throat products was made, and showed that the patient was still in an infectious condition; a second examination was made seventeen days afterwards, and this showed no trace of the disease.’ Had no such examination been made the probability is that the infection would have been conveyed to others.

“Some eminent authorities strongly urge that Isolation should be maintained until at least two negative cultures have been consecutively secured from the throat. Since the introduction of the serum treatment of this disease, the mortality has been greatly reduced, and the after-effects have been much less severe. It is strongly urged by all the best authorities that it should be used in every case of Diphtheria, and, if possible, at the outset of the disease.”

In *Henstead* Rural District Dr. S. H. Burton reports 31 cases of Diphtheria occurring in 8 parishes, Hethersett being the most heavily involved with 14 cases. The Diphtheria bacillus has never been demonstrated in a polluted water as far as I am aware, but no more has it been often looked for. The chief reasons against Diphtheria being a water-borne disease are that it does not attack many persons of all ages at once, but generally singles out a young child, or any other single person, in the first instance, and then spreads by direct contact from one to another. Water-borne infection generally attacks a considerable number of persons who partake of the water simultaneously. Still, there are evidences that some medical men suspect or denounce polluted water supplies as an originating source of Diphtheria. So, too, with regard to defective drains, although the majority of modernly-equipped Medical Officers of Health have become very sceptical as to the part played by defective drains in the origin and spread of Diphtheria, we still find physicians of experience directly attributing cases of Diphtheria to defective drainage; but, as with the water theory, this is, I think, largely a matter of opinion with them, and is not based on scientific (bacteriological) inquiry and proof.

Modern science rather lays stress on direct infection from person to person, and, indeed, as a matter of experience it is only right to say that diligent bacteriological inquiry extending to the throats of “contacts” who show no evidence of disease, will generally result in un-

suspected sources of infection being discovered ; and the isolation and treatment of these unsuspecting "carriers" (many of whom have had Diphtheria themselves a few months previously) cuts short many a threatening epidemic. But, whether or no polluted water-supplies or defective drains can, or cannot, give rise to definite Diphtheria, such conditions undoubtedly tend to lower health and the natural resistive powers of the individual to disease. They are distinctly dangerous to health, and should always be inquired into in all cases of infectious disease, and when defects are found, they should be remedied with all despatch. I have been led to make the above observations through the interesting Report of Dr. Burton, which I shall proceed to quote from, merely drawing attention in passing to another possible source of Diphtheria infection recorded by him, viz., from lower forms of animal life—in this instance suspicion resting on pigeons. Cats and even horses have been found to harbour and convey the infection of Diphtheria, and a form of Diphtheria in pigeons is a well-established fact.

Dr. Burton says :—"The Hethersett cases were for the most part all contact cases, and occurred during the first two months of the year. The two Schools in Hethersett were closed during December, 1907. A large amount of sore throat was present at this time in the Parish. The Stoke and Poringland cases occurred amongst children attending Poringland School, six of them being in the Infants' department. The first case originated through polluted water and defective sanitary arrangements, and the other six were contact cases, necessitating the closure of the School. The remaining three cases were due to defective house drainage. The Bramerton case was probably due to pigeon Diphtheria, several dead pigeons having been found in the locality, and the house sanitation being good. The Swainsthorpe case was imported from Hethel, where there had been a case. The Trowse cases were due to defective house drains, which were not ventilated nor cut off from the sewer. The parish is also subject to heavy dews and thick fogs, tending to assist the disease."

In *Marshland* Rural District, Dr. Forrest reports that five cases at Terrington occurred in one household, and at Upwell most of the cases were in houses adjacent to each other.

In *Mitford and Launditch* R.D. Dr. Belding reports seven Diphtheria cases in five parishes—two imported, the others a continuation of an outbreak at Mattishall the previous year. He remarks :—

"We are having practically every case tested by the Clinical Research Association for diagnostic purposes, together with any suspicious contact cases.

"We have also adopted the suggestion made by the County M.O.H., that the throats should be tested before children return to school.

"The Council also provide antitoxin for use in all cases, and any contact cases are given a prophylactic dose."

In *St. Faith's*, Dr. Long records 18 cases, 11 of which occurred in the parish of Lenwade. He acknowledges the prompt assistance of Dr. Perry, of Reepham, in the free use of antitoxin.

"As an example of the difficulties one has to contend with in combating infectious diseases in country villages, where no Isolation Hospital is available, and when the housing accommodation is so inadequate, as is the case at Lenwade, I may say that the first case in this epidemic occurred in a family of eight—father and mother and six children. When I first visited them I found a girl and boy, aged respectively 11 and 13, both ill with the disease, and sleeping in one room. The only other bedroom in the cottage was occupied by the parents, a son aged 15, and three other children, aged six, three, and eight months. The son was in the garden, and had, as I discovered, well-marked diphtheritic membrane on both tonsils ; in addition, one of the other children had a purulent nasal discharge. There was only one room downstairs in this cottage, and the small garden at the back was in free communication with that of the cottage next door, where there were also children. I need hardly say that the children next door did not escape the infection.

"During the year the Council have made a regulation that no child that has recently had Diphtheria shall be considered free from infection and eligible to return to school until its throat has been proved, by bacteriological examination, to be free of the Diphtheria bacillus ; the expense of such examination to be borne, when necessary, by the Council."

In *Swaffham* Rural District 38 cases and 6 deaths occurred in the adjoining villages of Necton and East and West Bradenham. During the greater part of this time the district was without the services of a Medical Officer of Health, owing to the illness and later the death of Mr. Foster.

In consequence of a telegram I visited East Bradenham myself on August 31st, to enquire into a notified case, and ascertained that a neighbour had lost a child, aged six, a week or two earlier, the cause of death being stated to be bronchitis and laryngitis. The mother stated that the child had had "white specks" in its throat. Another child was poorly in the house, awaiting the visit of a doctor. I advised the Rural District Council as to bacteriological and other methods of controlling Diphtheria under the guidance of a competent Medical Officer.

Dr. Harris, M.O.H. for *Thetford* Rural District, writes :—

"With regard to cases of Diphtheria, in my last Annual Report I requested the Council to provide anti-diphtheritic serum in necessitous cases, both for treatment and prophylactic purposes. I regret the Council has not yet arranged for this, and I must again request them to give the matter their attention. Further, at the request of the County Medical Officer of Health, I ask that no child who has been excluded from school on account of suffering from Diphtheria shall be re-admitted to school until a bacteriological examination of a swabbing taken from the throat proves the absence of the Diphtheria bacillus. It is a well-known fact that the bacillus often remains in the throat long after the child is pronounced convalescent, and hence, upon returning to school in this condition, the disease may be communicated to other children."

Dr. Fisher, of *Walsingham* Rural District, reports :—

"There was another outbreak in the Raynham District in May, which seemed to be directly traceable to a batch of books being brought out for use that had not been disinfected after the epidemic of November, 1907. The schools were closed on May 20th, the premises thoroughly disinfected and sprayed, and all the books in use at the Girls' School in West Raynham were destroyed; the same precautions were taken as in the epidemic of the previous year.

"All cases of Diphtheria in the district are verified by swabbing, and no case is freed from isolation until certified clear of the Klebs-Loeffler bacillus."

Among the Urban Districts, Dr. Legat, of *Cromer*, expresses the hope that in future cases of Diphtheria will be removed to the Isolation Hospital.

In *East Dereham* five cases occurred, affecting one adult and four children. Apparently no common cause was traced.

In *Downham Market* there was only one notification. The Medical Officer's remarks will be found in the summary of his Report hereafter.

In *Diss* there was only one case.

In *New Hunstanton*, Dr. B. G. Sumpter reports an outbreak at a Girls' College following on an unrecognised attack in a servant girl, who subsequently developed post-diphtheritic paralysis. Swabs from suspicious throats were submitted for bacteriological aid, drains were tested, and disinfection attended to. No cases were sent to the Isolation Hospital.

In neither *Sheringham*, *Swaffham*, nor *Wells* were any cases notified.

In *North Walsham* five cases occurred in the early months of the year, which Dr. Shepherd considers were a continuation of the outbreak at the end of 1907.

In *Walsoken* "Diphtheria proved to be by far the most serious illness." Thirteen cases were reported.

In *Thetford* there was one case notified. "The Council have agreed to provide anti-diphtheritic serum in necessitous cases, both for treatment and prophylaxis." Dr. Harris reports further as to the bacteriological examination of children's throats before they are re-admitted to school after Diphtheria.

In *King's Lynn* there were five cases notified.

PUERPERAL FEVER.—The number of cases notified during 1908 was 13, 12 in the 20 Rural Districts, and 1 in the 12 Urban Districts. In all there were 10 deaths. The case rate per 1000 births registered for the whole County was 1·6: for the Urban Districts 0·73, and for the Rural Districts 2·04. In Blofield a death was registered apparently without notification. The death rate per 100 cases notified was 78·5, and the zymotic death rate was 0·03.

NON-NOTIFIABLE INFECTIOUS DISEASES.

MEASLES [N.B.—This disease is notifiable in Sheringham].—This disease was epidemic in King's Lynn during 1908, and accounted for 38 deaths, giving a zymotic death rate of 1·7 for Measles in this town. A special report was requested from the Medical Officer of Health by the Local Government Board.

Among the other Urban Districts 4 deaths occurred in Thetford and 1 in Sheringham. These, with the 38 deaths in Lynn, totalled 43 deaths in the Urban Districts, with a combined estimated total population of 60,488. The zymotic death rate for the Urban Districts was 0·71.

Among the Rural Districts the Western Districts of Docking, Downham, West Lynn, and Freebridge Lynn suffered most. In all there were 33 deaths from Measles in the 20 Rural Districts. The Rural Districts have an estimated total population of 255,167, so the Measles zymotic death rate for the Rural Districts in 1908 works out at 0·13.

For the County as a whole the Measles death rate was 0·24, as compared with 0·22 for England and Wales, and 0·13 for England and Wales less the 218 larger towns.

The following notes are made by some of the Medical Officers of Health:—

King's Lynn (Special Report).—"It was impossible to trace the points of infection, Measles not being notifiable and rōtheln occurring previous to the Measles. Several County parishes to the South of Lynn were suffering.

"A large fair at the Lynn Mart opens each year in February. Last February one van was sent back before it reached the Borough on account of Measles.

"Twenty-one of the fatal cases occurred in the 'North End,' the quarter of the fishing population. The schools of the town were closed as soon as it seemed necessary.

"The heavy mortality was mostly due to the season of the year, which was most inclement and variable, to the presence of Whooping Cough, and to the great want of appreciation on the part of the public of the dangerous nature of the disease. This is in great part due to the difficulty in recognising with facility the difference between Measles and German Measles (rōtheln).

"Medical advice is, I think, seldom sought except dangerous symptoms have already developed."

Thetford M.B.—"Measles and Whooping Cough were prevalent in the early part of the year."

Depwade R.D.—Five Schools were closed in January and March on account of Measles. "The Schools practically closed themselves, and any attempt at exclusion was absurd."

Docking R.D.—Dr. Sumpter writes:—"From a preventive point of view (which is, I take it, the view with which Medical Officers of Health are instructed to advise as to the closure of Schools) closure of a School for Measles is seldom efficacious, and when the Medical Officer of Health is only informed of the presence of Measles in a village when nearly 50 per cent. of the children are affected it is absolutely useless. I have advised closure of the Schools in these cases, as it seemed useless to continue with so small a number. I have only once had the chance of stopping the spread of infection by 'partial closure' (Docking). No other cases occurred, but I had not a medical man's confirmation of the diagnosis. On two occasions I have investigated cases of reported Measles and found they were not so. On two occasions I was informed of cases of Measles in a village where no other cases existed. They were not attending School, and with the conscientious assistance of the parents an epidemic was averted."

West Lynn.—"In April it was epidemic in the village, scarcely a family escaped."

Marshland.—Measles was very prevalent.

WHOOPING COUGH.—This disease accounted for 17 deaths in the 12 Urban Districts, 7 deaths being recorded at King's Lynn and 5 deaths at Dereham from this disease. Among the Rural Districts 105 deaths occurred. Henstead was the only one of the 20 Rural Districts which escaped without a death. Aylsham, Forehoe, and Freebridge Lynn were the Districts most affected. The zymotic death rates were 0.27 for the Urban Districts, 0.41 for the Rural Districts, and 0.39 for the whole Administrative County.

These compare with a death rate of 0.27 for England and Wales.

The special fatality of the two diseases, Measles and Whooping Cough, among infants and very young children has already been commented upon. In 1908 they accounted between them for 198 deaths in the Administrative County, while Scarlet Fever, Diphtheria, and Typhoid Fever together accounted for not more than 81, or rather less than half this number.

Dr. Back, M.O.H. for Aylsham Rural District, also draws attention to this fact in commenting on Whooping Cough. His remarks claim attention. He says:—"Of the Un-notifiable Infectious Diseases, Whooping Cough was by far the most conspicuous. This subtle disease claimed 16 victims, 10 of whom were children under one year of age. Whooping Cough is not treated with that amount of respect to which its power for evil entitles it. Scarlet Fever is regarded with awe, while Whooping Cough, with its heavy death-roll, is classed among the minor ailments incidental to the early years of childhood. The difficulties met with in combating epidemic Whooping Cough are very great, owing chiefly to its intense infectiveness, and to the fact that in its early stages, when the patient is able to move about and distribute infection, its true nature is rarely recognised. The responsibilities of parents with regard to this malady are very great."

Dr. Lack, M.O.H. for Forehoe, writes in similar strain, and recommends notification. "There were 8 deaths from this disease. Whooping Cough is very fatal to young child life, and its gravity is not sufficiently appreciated. This disease is not notifiable in the Forehoe District, but it might be made so with advantage, as it is only by the isolation of early cases that the spread of the disease can be prevented."

Epidemic Death Rate.

The *epidemic death rate* is the ratio per 1,000 population of deaths from Small Pox, Measles, Scarlet Fever, Whooping Cough, Diphtheria (including Membranous Croup), Enteric and Continued Fever, and Diarrhœa. From the preceding pages it will be noted for the Administrative County that the rate from *Small Pox* was .00, from *Scarlet Fever* .02, *Typhoid Fever* .07, *Diphtheria* .16, *Measles* .24, *Whooping Cough* .39, *Diarrhœa* .10, or for all 7 principal zymotics .98, which exactly coincides with that for Rural England generally.

CANCER.

In my last Annual Report I invited the District Medical Officers of Health to prosecute inquiry into the causation of this disease, which is responsible for so high a rate of mortality among persons over 40 years of age. I suggested the Cancer history of houses as well as of families as a point that should be elucidated.

The following tabular statement gives the number of deaths in each Sanitary District in the Administrative County of Norfolk, and the death-rate per 1000 persons living in the District. The remarks, if any, of the District Medical Officer of Health are appended:—

Cancer Deaths, Norfolk, 1908.

RURAL DISTRICTS.				URBAN DISTRICTS.			
			No. of Deaths.	Death Rate.			
			No. of Deaths.	Death Rate.			
Aylsham	17	1·01	Cromer	4	·86		
Blofield	11	1·02	Dereham	13	2·52		
Depwade	23	1·16	Downham	1	·4		
Docking	21	1·33	Diss	2	·52		
Downham	23	1·53	Hunstanton, New	1	·52		
Erpingham	17	·89	Sheringham	4	1·33		
Flegg, E. and W...	5	·5	Swaffham	2	·6		
Forehoe	11	·97	Walsham, North ..	2	·46		
Henstead	9	·87	Walsoken	2	·83		
Loddon and Clavering	10	·16	Wells-next-Sea and Port	2	·81		
Freebridge Lynn ..	14	1·18	King's Lynn	32	1·51		
West Lynn	..	..	Thetford	5	1·54		
Marshland	12	1·06	Total, Urban Districts	69	1·13		
Mitford and Launditch	22	1·16					
St. Faith's	13	1·17					
Smallburgh	15	1·10					
Swaffham	9	1·17					
Thetford	15	1·5					
Walsingham	18	1·02					
Wayland	21	1·52					
Whole of Rural Districts	286	0·99	Total, Whole Administrative County	355	1·12		

Remarks of District Medical Officers of Health :—

Depwade.—"No particular parish was marked by undue mortality, and no trade or occupation seemed especially liable to the disease."

Downham.—"Deaths evenly distributed throughout the District." The M.O.H. thinks there is some relation with damp houses in low-lying districts. He quotes an instance of a wife dying of cancer one year after her husband.

Erpingham.—"I have not had the opportunity of investigating all deaths."

Walsingham.—"Death-rate slightly lower. No instances of 'cancer' houses, the deaths not confined to any particular locality."

The Cancer death rate in the Administrative County of Norfolk in 1908 was 1·12, as compared with 1·16 in 1907.

TUBERCULOSIS.

The Public Health (Tuberculosis) Regulations, 1908.

In December, 1908, the Local Government Board issued an Order in pursuance of Section 130 of the Public Health Act, 1875, as amended by the Public Health Act, 1896, to provide for the notification to the Medical Officer of Health of Sanitary Authorities of cases of Pulmonary Tuberculosis occurring amongst the inmates of Poor Law Institutions, or amongst persons under the care of District Medical Officers, and for the taking of certain measures in such cases. The notification must be sent (within 48 hours after the Medical Officer of the Poor Law Institution or the District Medical Officer has first recognised the symptoms of Pulmonary Tuberculosis) to the Medical Officer of Health of the Sanitary District in which the usual residence of the poor person is situate.

Likewise, on a consumptive patient leaving a Poor Law Institution, notification of the actual or intended place of destination must be posted to the Medical Officer of Health of the Sanitary District in which such intended destination is situate by the Superintending Officer of the Poor Law Institution, within 48 hours of the person's departure.

Relieving Officers are required to notify changes of address of notified cases, giving accurate information within 48 hours after such has been obtained. There are fixed scales of remuneration, and supplies of forms for notification, change of address, etc.

The Order came into force on January 1st, 1909.

At the International Congress on Tuberculosis, in Washington in 1908, 33 Countries were represented. The following were among the resolutions adopted :—

(1) That the attention of the States and Central Governments be called to the importance of proper laws for the obligatory notification by medical attendants to the Health Authorities of all cases of Tuberculosis coming to their notice, and for the registration of such cases in order to enable the Health Authorities to put into operation adequate measures for the prevention of the disease.

(2) That preventive measures against bovine Tuberculosis be continued, and that the possibility of the propagation of this to man be recognised.

Whether notification will prove of advantage or not depends upon the administrative measures arranged for by local Sanitary Authorities in connection with the notifications.

Help may be given in various directions—

- (a) by the distribution of educative pamphlets ;
- (b) by the provision of pocket spit bottles and paper handkerchiefs ;
- (c) by making provision for Sanatorium treatment in suitable cases, which will not only be curative, but educationally preventive treatment ;
- (d) by charitable assistance, with suitable food and remedies ;
- (e) by seeing that the patient occupies a separate bed, and if possible, bedroom ;
- (f) by routine visits of trained Inspectors, or Nurses, or Health Visitors to advise as to ventilation, cleanliness, occasional disinfection, and generally the maintenance of precautionary measures ;
- (g) by removing severe or dying cases to Hospital, because the last stages of Consumption are those most dangerous for the other occupants of a house.

In February, 1909, the Local Government Board issued a Memorandum prepared by their Medical Officer on Administrative Measures against Tuberculosis. In dealing with Educational Measures, Dr. Newsholme says these will naturally comprise measures for instructing the general community, those more directly exposed to the infection of Tuberculosis, and those already tuberculous. Instruction of the tuberculous patient is essential for the prevention of Tuberculosis, and of the means to this end, temporary abode in a Sanatorium is probably the most effective.

There were, during 1908, registered in the Administrative County of Norfolk 285 deaths from Phthisis, and 82 deaths from other forms of Tubercular disease.

These figures give a *Phthisis* death-rate for the whole Administrative County of 0·9 for the year 1908, as compared with 0·77 for the year 1907.

The Tubercular death-rate, or deaths from Phthisis *and* all other Tubercular diseases, was 1·16, as compared with 1·06 in 1907.

GENERAL SANITATION.

HOUSING ACCOMMODATION.—This matter deserves the fullest consideration. It is one of great moment. It affects not only the health of individuals, but the health of communities. Viewed broadly it is a matter of national importance. Insufficient housing accommodation is undoubtedly one of the most important factors in natural physical deterioration. In connection with the pervading blight of tuberculosis, such systematic statistics as are available bear strong testimony to the frequent occurrence of tuberculosis in childhood.

In my Annual Report of last year I referred to recent research work which favoured the view that tubercular infection by the bowels in infants was very common, and that this conclusion justified the closest attention to the purity of the milk supply. But without doubt other portals of infection exist, and other causal conditions are operative, and the relatively airless conditions of home and some schools must be a prominent factor. The Reports of the District Medical Officers of Health make frequent reference to the two-bedroom cottages which are common throughout the County. In the Summaries of the Reports for 1907 I made free quotations from these Reports, which showed that in many Districts the Medical Officers would condemn many houses, where more suitable accommodation was available. I venture to suggest that cottages like the following should be unhesitatingly condemned and closed. I quote from last year's Report:—"The roof is often not altogether weatherproof; the walls and floor are damp through absence of eaves-guttering; there is an insecurity about the bulging walls; and the bedroom situated in the pitch of the roof, with insufficient air space, is found ventilated by a window on the level of the floor." Just consider this last, and, perhaps, greatest fault, and imagine what it must be like for two adults and two or three children to pass the nights, especially in the Winter, in such a room. Granting that the owner on the one hand says it is not worth his while to make such a house habitable, and that pulling it down would under present conditions only result in depriving a labourer and his family of their only available shelter, it is clear that the solution of the problem, if private enterprise fails, is for action to be taken under the Public Health Act, 1875, Sections 91 to 111, or under the Housing Acts. Such homes as these, especially in districts where hospital isolation is absolutely lacking, must tend to become veritable "nests" of infective diseases, including Tuberculosis. I would suggest that in making inquiries in connection with notified cases of Pulmonary Tuberculosis under the Order of the Local Government Board which came into force this year, particular attention should be given when recording the home conditions to noting the number and size of the bedrooms, the number of persons occupying each, and the methods available for ventilation. These points are of the utmost importance in relation not only to the treatment of the patient, but to the limitation of the spread of the disease throughout his household.

With regard to action under Part III. of the Housing of the Working Classes Act, this part, which is at present adoptive, can only be put in force in any Rural District after a local inquiry by the County Council and a subsequent certificate in stated terms. Care would need to be taken in connection with any such provision, if at any time made, that the cottages erected were occupied by the people for whom they were intended. This apparently would necessitate a rise in the general scale of wages for agricultural labourers, for the present average wage would hardly permit a man with a wife and several children to pay adequate rent for a suitable house for his family. The whole subject needs most careful and sympathetic consideration by all authorities concerned.

In the brief Summaries of the Reports of each District Medical Officer of Health, which form the last part of this Report, will be found a brief account of the housing accommodation which exists in each particular District. The reading of these will make evident the need for making Part III. of the Housing of the Working Classes Act, 1890, compulsory on all local authorities instead of optional, as is indeed contemplated by the Town Planning Bill now before Parliament. The need for town planning schemes is also strikingly illustrated in some of our small towns.

WATER SUPPLIES.—No more important public health problem faces a community than its water supply.

The Reports of the Rural District Medical Officers of Health indicate what a very large proportion of Norfolk villages and hamlets are still dependent on shallow wells and rain-water for their supply. Where rain-water is the only source of supply in times of drought, the people not only go sometimes short of stored water, but are occasionally compelled to draw stagnant water from ponds and ditches. This was reported to be the case, for instance, in the Marshland District, as I have already informed the County Sanitary Committee. I have also reported as to the water supplies of *West Lynn*, which is entirely dependent on rain-water; *Heacham*, which now seems in a fair way to be supplied on reasonable terms by the Hunstanton Water Company; and *Harleston*, in the Depwade Rural District, concerning which the District Council is now in communication with the Local Government Board.

At *Harleston* I suggested that the best provision could probably be made by digging a deep well into the underlying chalk, which would provide an excellent water ; but as regards the Marshland District, unless the mains of the Wisbech Water Company could be extended in many directions it would appear desirable to draw the attention of the District Council to the following paragraph which I reprint from one of my Quarterly Reports to the County Sanitary Committee. Indeed, in all parts of the County where purer sources of water are unattainable, the method of constructing a shallow well here suggested would do much towards preventing dangerous pollution of the water. Defects in construction are among the commonest causes of pollution. I therefore quote from my former Report concerning shallow wells as follows :—

“ The water should not be permitted to enter the well at a less depth than 6 to 10 feet from the surface, so as to secure that amount of filtration at any rate. To effect this the well should be protected by 9-in. clay puddling for a depth of 6 to 12 feet, internal to this being good brickwork (9-in.) rendered in cement. The top of the well should be brought up well above the ground surface, and be provided with a proper cover, whether flagstone, wood, or iron. The pump should be affixed at a little distance from the well, and a concrete slope should carry drippings away from the well.

“ I am of opinion that water certificates to new houses might be withheld unless a properly-constructed well is provided.”

Urban Districts.

With the exception of Diss and Wells-next-the-Sea, the Urban Districts have satisfactory public water supplies.

For *Cromer*, water of good quality is obtained by borings in the chalk at Metton. The works include a duplicate well and a reservoir with a storage capacity of 600,000 gallons.

At *East Dereham*, water obtained from a deep well in the chalk is subjected to a softening process before being distributed.

At *Swafton*, where the chalk comes to the surface, the water is obtained from a well 180 feet deep, carefully protected from surface pollution.

At *Thetford*, water of excellent quality is derived from a well 160 feet deep, situated over a mile from the town. After storage in a covered reservoir capable of holding 250,000 gallons, it gravitates to the town.

At *Downham Market* and *Walsoken*, water is largely obtained from the mains of the Wisbech Water Works Company, which pumps water of excellent quality from the springs at Marham.

At *Sheringham*, the water is derived from springs and a deep tube well, and pumped to reservoirs, whence it gravitates to the town. An excellent report on the water supply is included in the Annual Report of the Medical Officer of Health. “ The water is of excellent quality. Sources of possible contamination are sought for at intervals by close inspection, and any steps thought necessary immediately taken to prevent the same.” The water is analysed both chemically and bacteriologically from time to time.

At *Hunstanton*, some natural springs are utilised for the water supply. The water is pumped to three cisterns, of a total capacity of 100,000 gallons, in a water tower, whence it is distributed to the town. I am of opinion that the site of this Water Works should be made inaccessible to strangers, and that it would be wise on the part of the Urban District Council to acquire a field abutting on one side of the Water Works, which is at present farmed.

At *Diss*, the water supply is at present from wells—mostly surface wells. In the early part of 1908 the Medical Officer of Health, in a Special Report, attributed an outbreak of Typhoid Fever to a well supplying a particular district, and joined his predecessors in urging the provision of a pure public water supply. I regret to say that in his Annual Report for 1908 he omits to give details of the action subsequently taken by the District Council, saying, “ I need not trouble you with further details of the various schemes you have had before you during the past year for the supply of water to the town.” Now, not only would such a record have been valuable for the Urban District itself, but it is indispensable for the information of the Local Government Board and the County Council, who often need (as pointed out in the Annual Memorandum of the Board) a statement of the local circumstances and a history of local sanitary questions, which may appear superfluous to the Council of the district in question.

At *King's Lynn*, the water supply is derived from works the property of the Corporation, the water being obtained from wells sunk at Gayton, from which the water is pumped into a reservoir and thence supplied to the town by gravitation.

The water supply was not mentioned in the original report of the Medical Officer of Health for the year 1908, but further details being called for by the Local Government Board, the Medical Officer of Health made a further report dated October 28th, 1908, and his comments require the most careful consideration, for although they do not in any way incriminate the water supply at its source they suggest that contamination occurs in some of the old leaky water mains. Dr. Allinson reported:—

“The most unpromising feature in the sanitary condition of the district is its water supply. The new water derived from Gayton is conveyed into the town by a new water main, but it is distributed to the town by mains, many of which are extremely old. Many new mains were laid down when the new water supply was obtained, but whilst so many of the old water mains remain in such a large proportion, the water service must necessarily be considered unreliable and dangerous. . . . With so many old mains existing, with their accompanying old service pipes, with leaks being so constantly demonstrated, to establish absolute evidence of the relation between any one case of Typhoid Fever and any particular leak is obviously often difficult, but in a batch of four cases notified to me on the first two days of this present month (October, 1908), all occurring in a very small area, receiving their water from an aged main with the acknowledged existence of leaks immediately preceding the outbreak, one in intimate proximity, I think there is ample corroboration of my views that whilst the water service remains imperfect and unreliable, so long also will continue the endemic Typhoid Fever.”

These very plain remarks by a responsible Medical Officer compelled the closest consideration of the matter by the Lynn Council, and the Health Committee expressed considerable surprise at the contents of the Medical Officer's Report. They drafted a letter to the Local Government Board in reply to the Report, which was approved by the Town Council and forwarded to the Board. Their reference to the old water mains incriminated by the Medical Officer of Health is as follows:—

“As regards the remarks about ‘old water mains,’ . . . in 1900 the Corporation applied for and obtained the sanction of the Board to a loan of £2500 for providing new water mains. Before the local inquiry into the question of this loan was held, strict and definite instructions were given that every main was to be renewed where in any degree desirable. The whole of the money was spent on renewing mains. . . . For some time, whenever a case of Typhoid occurred, main after main was opened out and inspected, at considerable expense to the town. . . . Eventually the Water Works Committee became firmly convinced that no exception could be taken to the water supply, and that they were wasting money and achieving no useful object in continuing to open up the mains in the manner described.” But in June, 1905, a resolution was passed “authorising the Borough Surveyor to open out the ground and examine any pipe specifically pointed out by the Medical Officer of Health, and in his opinion requiring examination, the examination to take place in the presence of the Medical Officer of Health.” The Committee express surprise that the M.O.H. should have only once taken advantage of the powers conferred by the resolution, and state that “the Corporation have nothing to conceal and nothing to fear from the most searching investigation, and they will gladly afford every assistance in their power in any inquiry that may be made.” . . . They say, in conclusion, that “the Corporation have been most insistent in their efforts to render the Borough beyond reproach in the matter of sanitation. They have spent £28,000 in thoroughly and effectively sewerage the Borough, and £36,000 in affording a new water supply.”

It must be carefully noted that the Medical Officer of Health did not impugn the water *supplied* to the town, but considered that the water *service* was unreliable and dangerous in certain parts because of so many old mains still existing with their old service pipes, “with leaks being so commonly demonstrated.” The Corporation, on the other hand, deny that such leaks have been demonstrated, and apparently have satisfied the Local Government Board, for I have not heard of any further action in the matter.

Rural Districts.

Among the Rural Districts, *Marshland* and *Downham* have considerable areas supplied by the Wisbech Water Company in the neighbourhood of its mains.

In *Erpingham Rural District*, Mundesley, Holt, and Kelling possess public water supplies, while Overstrand and East and West Runton are supplied from the Cromer Council's Water Works. A scarcity of water at Felbrigg and Roughton will be met by an extension of the Cromer water mains.

The report of the Medical Officer of Health for *St. Faith's* Rural District deals with the Water Supply in considerable detail. A few houses in Catton and Sprowston are supplied by the Norwich Water Works Company; otherwise the water supply of the district is from wells, mostly surface wells. He reproduces his special report on the water supply of Lenwade, which at present is obtained from various wells scattered through the village. Many of the facts reported by Dr. Long as existing in Lenwade would apply to many other villages in rural areas. The wells are mere surface wells tapping the ground water which lies above the first impermeable stratum. "In a few cases the water is drawn by a pump, but in many instances by the chain and bucket method. . . . Slop water is generally thrown on the garden, but in connection with many of the houses there are gullies for carrying off storm water, etc. . . . I have no doubt from my own observations that these gullies are also used at times for slop-water, and, most probably, for fecal matter as well. Most of these gullies drain into unventilated soak-away cesspools, so that there are almost as many cesspools in the village as there are drinking-water wells," and often "within a few feet" of each other.

The water of four wells was condemned by Mr. Sutton as unfit for drinking purposes, while of the other two samples submitted, he said, "neither of them is good water!"

Dr. Long consulted the well-known expert geologist, Mr. F. W. Harmer, F.G.S., who gives some interesting data regarding the Valley of the Wensum, as illustrated by a diagram by himself. He says, "The valley in which that river runs has been excavated out of the chalk and some deposits of glacial age which overlie it . . . the chalk is many hundred feet in thickness. Subsequently to the excavation of the valley, and within it, a bed of porous sandy gravel has accumulated, under different conditions, however, to any which now obtain. This gravel, resting on the chalk as in a basin, forms a low terrace which extends continuously under all the inhabited parts of the villages; owing to its slight elevation above the river it is permanently water-logged, the water in the gravel being derived from the river and from the rainfall, which amounts to about two feet per annum over every part of the area, but to some extent also from the numerous cesspools to which you called my attention. . . . There is probably but little difference between the level at which the surplus water escapes from the cesspools and that at which a few yards distant it is drawn from the wells for drinking."

Mr. Harmer also thought that owing to the permanently wet condition of the subsoil and the shallowness of the wells, the digging of human excrement into the gardens adjoining the cottages could not be unattended with danger. Dr. Long suggested the sinking of tube wells into the chalk to replace the present surface wells.

The matter will probably form the subject of a Local Government Board Inquiry, as nothing has been done since the Rural District Council recommended the Parish Council to adopt Dr. Long's suggestion.

LOCAL GOVERNMENT BOARD INQUIRIES.

The following abstracts of medical inspections made in 1907 in districts within the Administrative County of Norfolk, by Medical Inspectors of the Local Government Board, are summarised from the Report of the Medical Officer to the Local Government Board for 1909-08, published this year.

DOCKING RURAL DISTRICT.—*Medical Inspector*, Dr. Fletcher *Ground of Inquiry*.—Absence of proper Water Supply for Heacham.

Chief facts reported by Inspector.—The inspection extended not over the whole district, but almost entirely to the coast villages. Defective water supplies throughout the coast villages. Rejection by the Council of every feasible scheme for securing an adequate supply for Heacham. No proper sewerage scheme in any of the villages. Only three villages with even a pretence of drainage by public sewers, viz., Dersingham, Snettisham, and Brancaster. Excrement disposal mostly by privy, cesspits, and box or pail-closets, generally unsatisfactory in character. Dwellings frequently damp through faulty materials and mode of construction. Cowsheds, mostly open sheds, with dirty byres or yards, although regulations under the Dairies, Cowsheds and Milkshops Order were recently put in force. No register of cow-keepers and purveyors of milk. No bye-laws in force. No isolation hospital. Infectious Disease (Prevention) Act not adopted. Part III. of Public Health Acts Amendment Act, 1890, not adopted. General neglect of proper administration by the District Council. Need of properly-trained Medical Officer of Health.

THETFORD, BOROUGH.—*Medical Inspector*, Dr. Spencer Low. *Ground of Inquiry*:—Insufficient reports of Medical Officer of Health, who holds office also in two other Sanitary Districts under inspection.

Chief facts reported by Inspector.—Dilapidated houses unfit for human habitation. Sewerage system old and unsatisfactory; joints of pipes defective, and sewers ventilated by rain down spouts. Sewage discharged untreated into the Rivers Thet and Little Ouse. House drainage unsatisfactory in some instances. Excrement disposed of chiefly by cesspit privies, many overfull. Privies emptied by occupiers; this duty should be undertaken by the Council. Nuisances prevalent. Slaughter-houses and bakehouses unregistered. Two cowsheds in a very insanitary state. No building bye-laws in force. Salaries for Medical Officer of Health and Inspector of Nuisances totally insufficient. No isolation accommodation except for Small Pox. Methods of dealing with infectious disease otherwise insufficient. No steam disinfecter available.

THETFORD RURAL DISTRICT.—*Medical Inspector*, Dr. Spencer Low. *Ground of Inquiry*:—Insufficiency of arrangements for nuisance inspection.

Chief facts reported by Inspector.—Working classes comfortably housed upon some estates, but upon others a number of houses are unfit for human habitation. Sewerage non-existent, except at East Harling, where sewage disposal is unsatisfactory. Systems of scavenging and drainage much required for larger villages. Slaughter-houses and cow-keepers unregistered. Nuisances prevalent. There is need of a qualified whole-time Inspector of Nuisances, to act also for the neighbouring Brandon Rural District. No isolation hospital except for Small Pox. No steam disinfecter available.

In reference to the outcome of these inquiries, the summaries of the Reports of the District Medical Officers of Health given hereafter should be consulted.

With regard to the conditions obtaining at Heacham, I reported to the County Council in October, 1908. In February, 1909, the Docking Rural District Council were negotiating with the Hunstanton Urban District Council to supply Heacham with water, and the Medical Officer of Health, in his Annual Report, says that the question is now in a satisfactory way towards solution.

As regards Thetford Borough, a Special Report on house-to-house inspection was made by Dr. Harris, the Medical Officer of Health, in November, 1908, and I visited the town in December. Ald. F. H. Millington, the Chairman of the Thetford Sanitary Committee, prepared a statement, which was read and adopted at the meeting of the Urban District Council in May, 1909, in which was recognised the importance of the problems raised by Dr. Spencer Low's Report. The statement referred to the seven definite recommendations made by Dr. Spencer Low, which have been acted upon by the Town Council as regards—

- (1) Procuring expert advice upon the question of providing the Urban portion of the Borough with an efficient system of sewerage;
- (2) The registration of slaughter-houses and other buildings and trades requiring regulation;
- (3) The preparation of building bye-laws;
- (4) The proper scavenging of privy vaults by the Council's own workmen;

(5) The provision of Diphtheria antitoxin and bacteriological diagnosis in doubtful attacks, and improved methods of disinfection ;

(6) The overhauling of cowsheds and the safeguarding the purity of the milk sold in the Borough ;

(7) Arrangements for nuisance inspection ;

but the statement says that the Council have not been able to see their way to the provision of an isolation hospital, nor, until the larger sewerage question was settled, could they take definite action as regards a better system of excrement disposal.

The Council ordered this statement, together with the various documents relating to the proposed sewerage scheme, to be printed and circulated among the ratepayers.

In the meantime the Council had considered the sewerage scheme prepared for them by Mr. E. Bailey Denton, which they did not care to undertake the responsibility of adopting without taking a poll of the town. A large majority of the ratepayers polled against the adoption of the scheme.

Apparently neither the Council nor the general mass of ratepayers were impressed with the risks referred to by Dr. Spencer Low, who wrote, "although the town receives the benefit of a pure supply of drinking water, the fact should not be overlooked that contamination of service water mains may occur, and that with greater pollution of the subsoil of the town, the more the risk of contaminating the water"; and again commented upon by their own Medical Officer of Health, in his Special Report, as follows :—"One of the greatest evils in the town is the disposal of the slop water. All the slop water, etc., which does not find its way into the so-called surface drains, either goes into the soakaway cesspools, old live wells, or is thrown on the ground or small gardens, thus polluting the subsoil in the neighbourhood of the houses, which may some day be a serious source of damage to the public health."

The continuance of pollution of the Rivers Thet and Little Ouse appears also to have been somewhat overlooked.

SEWERAGE AND DRAINAGE, AND DISPOSAL OF HOUSE REFUSE.

Moses, the great Jewish sanitarian, whose ideas and instructions deserve careful attention at the hands of modern experts in spite of the interim of thousands of years, is supposed to have urged the method of disposal of fœcal matter in the manner so intelligently illustrated and demonstrated to the present day by the domestic cat. This method of immediate earth burial is also in vogue, I believe, among Gipsies and some other nomadic tribes. Earth burial of excreta at a depth of not more than three or four inches from the surface insures a rapid and inoffensive destruction of all disagreeable organic matter, and unquestionably enriches the soil from an agricultural point of view. Had each dwelling-house an acre of land attached to it, each household could safely dispose of its own refuse in this eminently sane and economical manner; and probably, as held by the late Dr. V. Poore, without endangering its water supply even if on the same curtilage.

But such was the laziness and indifference of man, that it became the abominable custom to dig pits or privy-middens to a depth of some *feet* from the surface, to which every member of a household contributed his individual excrement, without an attempt on the part of any to deal further with it. Robbed of the "life" which is only to be found in the "surface" soil, these collecting matters of fermenting filth cannot undergo inoffensive resolution, but become most objectionable, insanitary, and dangerous collections, polluting the air and subsoil around, and the water beneath. Such abominations are still in existence in the majority of Norfolk villages, and they are, as a rule, only imperfectly emptied at irregular periods by hand labour, a most degrading avocation.

It is one of the commonest experiences to find these fermenting masses of filth within a few feet of the uncemented well which forms the drinking water supply of the household; and which is not only polluted by, but is often actually partly "fed" by the liquid contents of the cesspit after mere filtration of a kind through the *subsoil*, which lacks almost all the principal purifying properties of the *surface* soil.

It is rather difficult to understand why in olden days, when land was surely abundant enough, and perhaps not so much in demand as to be of exorbitant value, cottages should have been built cheek-by-jowl, with little or no surrounding curtilage; yet such is frequently found to be the case—*houses overcrowded on a small area of ground*. Even in a small village, such overcrowding of houses means the necessity of adopting some other method of sewage disposal, and some alternative provision of water supply.

The alternative methods of sewage disposal available in areas where houses are unprovided with sufficient garden space for the earth burial of the excreta belonging to them, are either the water-closet system or the pail system. The former is unquestionably the most satisfactory and convenient as far as the individual house is concerned, where sewers are provided to carry all matter away—but water-carriage involves the heavy items of a water supply and a system of sewerage, these expensive items being among the penalties which have to be paid for the ignorance of our forefathers. The other alternative is the pail-closet, in which excrement is received into pails or buckets, with or without the addition of earth. This system involves the necessity for providing for the periodical emptying and cleansing of the pails and the removal of the contents, and this, of course, involves expense.

The following quotations from the District Reports will show what is being attempted in each district. It will be noted that not only are surface and slop waters conveyed into the street water drains in many places, but there is often also a tendency to adopt these (ancient type of) drains to serve as sewers for human excreta. Unless great care is taken to make sure that these old drains are not leaky, sewage conveyed in them must inevitably pollute the subsoil at every leaky point, and the method cannot then be commended as a sound sanitary system to deal with the question.

Rural Districts.

AYLSHAM.—The Medical Officer of Health reports:—"No modern system of drainage has been introduced into any of the villages of the District, but, as will be seen by a reference to former Annual Reports, much has been done in the last ten years in adapting drains originally laid for the carriage of surface water to serve as sewers. In this way great improvements have been effected in the drainage of Aylsham, Reepham, Cawston, and Foulsham, so that now, in the matter of drainage, these places compare very favourably with other small towns and large villages in the County.

"In Aylsham, during the past year, ten untrapped gullies have been replaced by Doulton road gullies, and two ventilating shafts have been erected. The ventilating shafts and eight of the new gullies were fixed in connection with the Cromer Road drain.

"In Reepham, two Doulton road gullies have been put in, an additional ventilation shaft fixed, and 19 yards of old drain has been replaced by six-inch glazed pipe. The Reepham main drain terminates in a large settling tank, from which the drainage is carried by pipes across a meadow into an open ditch far removed from any dwelling. After passing through a series of ditches, it reaches a brook, and finally the river Wensum, though by this time all vestige of sewage must long since have disappeared. The settling tank is cleaned out four times a year, and is found to contain, for the most part, fairly clean road detritus. The ditch in the meadow is cleaned out twice in the year.

"The Cawston drains, which were remodelled in 1907, continue to work satisfactorily. The gullies which remain untrapped are at a distance from any house and give rise to no nuisance. The drain discharges into a meadow ditch which forms part of the basin of the river Wensum. The distance of the outlet from the river is some miles, sufficient to reduce the danger of river pollution to negligible quantity.

"The Foulsham main drain, the road gullies connected with which were some years since trapped, enters a ditch, which, in its course to "the run," passes close by some cottages. I have had no complaints of nuisance arising from this ditch, although I have made repeated enquiry. The amount of foul drainage passing through it must be very small in proportion to the surface water carried. The Foulsham "run" is a tributary to the river Wensum.

"Drains on private property, especially those connecting with public sewers, have received the attention of the Inspectors and myself. Among the 43 cases of this description dealt with during the year, nine were of licensed premises.

“Privies and Ashpits.”—A large proportion of nuisances necessitating structural alterations dealt with during the year have been in connection with privies and ashpits. The number of deep privy bins and ashpits existing in this District grows less year by year, but much remains to be done in this direction. During the year, fourteen new privies have been built on the pail system and four with bins. Twenty-five privies have been repaired and 126 have been converted from the bin to the pail system; most of these conversions have been in the town of Aylsham since the adoption of Public Scavenging. Seventeen ashpits have been altered or repaired, and 45 have been replaced by Sanitary Dust-bins.

“Public Scavenging.”—Public scavenging was introduced into the District for the first time at the commencement of the year, when the system was adopted in Aylsham. At first a difficulty was experienced in finding a person willing to undertake the work. This was chiefly owing to the uncertainty as to the amount of work which would be required to be done, and it was not until September 1st that a contract was entered into with the scavenger to do the work at £78 per annum, the Sanitary Authority finding a suitable cart.

“When the scavenger first entered on his duties there were but fifteen pail closets and a few dust-bins on his list. At the present time, the pail closets regularly emptied number 155, and there are also 60 sanitary dust-bins on the list. The work of the scavenger appears to be carried on in a satisfactory way, and is much appreciated by the inhabitants of Aylsham. The introduction of the system has made it possible to remove a number of insanitary conditions which were a great danger to the health of the town.

“The question of extending the advantages of public scavenging to some other of the large villages in the District should be considered when further experience is gained of its working in Aylsham.”

BLOFIELD.—“During the past year no fresh work has been done in connection with public drains. In recent years the drainage of the villages of Acle, Blofield, Freethorpe, and Upton has been greatly improved. In these villages the road surface water drains have been adapted to the carriage of sewage, and the pipes continued so that the outfall may be removed to a distance from any dwelling-house. The road gullies have been trapped and ventilation shafts erected, but up to the present no attempt has been made to treat the sewage at the outfalls.

“At Acle, the extension of the drain laid in 1907 works well, in spite of the fact that only a very slight fall was obtainable. There have been no complaints received of any nuisance at the outfall, which is far removed from any dwelling-house.

“At Freethorpe, the outfall is not altogether satisfactory, and would be improved by extending the pipes some twenty yards.

“At Thorpe St. Andrew, there is every prospect of the long-promised and much-needed system of drainage shortly becoming an accomplished fact. Details of the proposed scheme will be found in this Report under the heading of Thorpe Village.

“Brundall.—This village is becoming increasingly popular as a residential locality, and recently a number of houses have been built, for each of which a cesspool has been sunk for the reception of sewage. New roads, moreover, have been made offering frontage for a large number of building sites. Already the existing cesspools give rise to nuisances attendant on the frequent emptyings required, and as they increase in number the purity of the water supply is likely to become endangered. There is no doubt that in the near future a proper system of sewage will be a necessity for this village, and I think the time has arrived when the Council, as well as the inhabitants of Brundall, might consider whether it would not be more economical and better in every way to provide an efficient system of sewage disposal before further building is proceeded with.

“Twenty-five cases involving structural alterations in drains on private property have been dealt with, and four foul ditches have been cleaned out during the year.

“Privies and Ashpits.”—As might be expected in a Rural District, a large proportion of the insanitary conditions met with are in connection with privies. At the time of my appointment as your Medical Officer of Health, now twenty-four years ago, one privy was generally understood to be ample provision for the requirements of two families. The standard of comfort and decency has since that time been considerably raised, and I now venture to ask for the support of the Council in an attempt to secure for each household a privy to which they may have the exclusive right. In addition to the very great discomfort and incon-

venience occasioned by two families sharing one privy, difficulties are constantly arising where there is a division of responsibility in keeping these places clean.

“The plans to scale for both pail and bin privies which have been prepared by the Inspector of Nuisances have my entire approval, and if copies of these were furnished to property owners in all cases where new privies were ordered to be built, an improvement in the privy accommodation of the District would soon become evident.

“During the year eighteen new privies have been built on the pail system and two with bins. There have also been 122 bin privies converted to the pail system and 166 privies repaired.

“Three new ashpits have been built and six have been altered or repaired.”

DEPWADE.—“One of the greatest difficulties in your district is the disposal of excreta in a satisfactory manner; in the larger houses this difficulty is well overcome by the introduction of septic tank and aerator into the water closet system; the use of water closet and cesspool can be rendered a fairly satisfactory method, if the cesspit be periodically cleaned out, and a sewage-pump made use of to draw off the liquid, instead of permitting the ‘overflow’ to go ‘I wot not whither.’ In the larger villages the overflow from sewage-tank, together with sink-drainage and storm-water, is carried away by main sewer. The pail closet and privy are the usual means employed in the case of cottage property, the former, if well kept, being by far the better method.”

DOCKING.—See under summary of Report of M.O.H. hereafter.

DOWNHAM.—“The sewers at Fincham and Crimplesham were found satisfactory, and there have been no complaints of the Denver sewer.

“A foul dyke at Wimbotsham has for some time been a source of complaint. A part of this should be filled in and piped, and the other more frequently cleared out. The attention of the owner has been called to this, and I think it will be remedied during the coming year.”

See also under Summary Report hereafter.

ERPINGHAM.—Ditto.

FLEGG (EAST & WEST).—Ditto.

FOREHOE.—Ditto.

HENSTEAD.—“With the exception of Trowse Newton, there is no sewerage or drainage system in the District. On enquiry of Mr. Collins, City Engineer of Norwich, as to the progress made in the Norwich Sewerage Works, he wrote me as follows:—‘The hydrolytic tanks on Dr. Travis’ system are approaching completion at Whitlingham Farm, as is also the reinforced concrete rising main to convey the sewage from Trowse to the tanks. The Rees Roturbo pump of the electrically-driven pumping unit has been fixed, and I hope to get the motor fixed, connected, and to commence pumping sewage to the Farm by this unit in the course of a few weeks (Jan. 27, ’09). The distribution of the sewage thus pumped, however, will have for the time being to be on the same system as the past, as it will probably be several months before I am able to complete the rising main, including the river crossing, which is a very tedious and risky job. Whilst what is practicable is being done to carry on the work efficiently at the Farm, I am looking for totally different results when the new tanks are in use.’”

LODDON AND CLAVERING.—No details given.

WEST LYNN.—“The sewage flowing into the sewer drain adjacent to School is objectionable, and in hot weather likely to become injurious to health. The suggestion that a 12-inch pipe be put down would not prevent the nuisance permanently, it would only carry the offensive matter further away; however, this seems at present to be the only practicable plan.”

FREEBRIDGE LYNN.—The Medical Officer of Health made a house-to-house inspection of the district of Pott Row, with the Inspector of Nuisances, and recommended that “all pit privies be converted into pail or earth closets.”

MARSHLAND.—See Summary.

MITFORD AND LAUNDITCH.—“As reported last year, Litcham is still in a very unsatisfactory condition.

“The Council desired to begin with the drainage system, and the Inspector and I presented a scheme to deal with all the worst part of the village; this was adopted by the Council and sent to the Local Government Board, who declined to consider it, and advised that a Sanitary Engineer be called in. This has been done and a scheme presented, costing more than twice as much as the original, and rendering it practically impossible for a poor village to carry out.

“Our difficulty now is to deal with the insanitary areas, for it is obvious that quite different treatment is required if we have a drainage scheme and can abolish all cesspools, or if a complete scavenging system has to be devised by which all slops and house refuse have to be removed almost daily.

“It is obvious that we do not want the owners to spend a considerable sum of money on temporary work, and then call upon them in a year or two’s time to completely alter all they have done.

“The total result with regard to Litcham is that we have two schemes of drainage, one not considered by the L. G. B., and the other not adopted by the Council; many visits have been paid and reports presented by the Inspector and myself. Much discussion has taken place at the Council and the improvements effected are nil.

“The excrement, in my opinion, is best dealt with in a rural district by a system of pail closets, and emptying on the gardens, and I like the house refuse to be dealt with in a similar way. We are slowly extending this system whenever practicable, for as the district is entirely dependent on shallow wells for its water supply it is obvious that leaking privy vaults and large dust bins must be a source of danger, and in many instances have led to the closure of wells.

ST. FAITH’S.—See Summary.

SMALLBURGH.—Ditto.

THETFORD R.—Ditto.

WALSINGHAM.—Ditto.

WAYLAND.—“The system of sewerage and drainage in vogue in the villages in the district is somewhat primitive. Many nuisances caused by foul and offensive ditches, drains, and cesspools have been remedied. Progress is being made in the conversion of privy vaults to earth closets with pails.

“At Watton there is a satisfactory system of drainage carried out during the past few years, consisting of a ventilated main sewer, having at its outlet septic tanks and filter beds. During last year this sewer was extended for 300 yards, and there is a suggestion under consideration for a further extension of 60 yards, an undoubted improvement.

“At Attleborough dry earth closets are in general use, but a few closets are connected with the main sewers of the town, three in number. These sewers were, I understand, specially inspected in the early part of the year and found in a fair condition, and adequate for the purpose of receiving ordinary house and surface water. It has, however, been decided to make three large filter beds and septic tanks at the outlet of the sewers, terminating beyond the Cemetery, thus preventing the possible pollution of the stream with sewage matter. The work is now in hand. It has further been decided to have a similar system of filtration at the outlet of the other two sewers, should the work now being done prove satisfactory.”

Urban Districts.

CROMER.—“House drains and sewers are all efficient and are frequently flushed; they are provided with high ventilating shafts at frequent intervals.

“The sewage is received into settling tanks and the effluent discharged into the sea at high tide. The tanks are cleaned from time to time as required, the sludge being pumped into the effluent pipe and so conveyed out to sea.”

DEREHAM.—See Summary of Reports.

DOWNHAM MARKET.—Ditto.

DISS.—Ditto.

HUNSTANTON.—Ditto.

SHERINGHAM.—Ditto.

SWAFFHAM.—Ditto.

NORTH WALSHAM.—The Medical Officer of Health writes :—“ The drainage of the district continues to be upon the same system as heretofore, and upon the whole works satisfactorily now that there is a good water supply, free from surface contamination. If the various channels and open drains are frequently flushed and kept in good repair and free from stagnation pools, I consider they are free from danger to health. The various yards in the town have been considerably improved during late years.”

WALSOKEN.—See Summary.

WELLS-NEXT-THE-SEA.—The Medical Officer of Health writes :—“ The slop and rain waters of the town are conveyed in the drains to sea by three different routes. The North side of the town drains into the foreshore along the Quay, the West end of the town into a drain which empties by a sluice gate further down the harbour. From the Southern part of the town the drains are ultimately collected into an open drain, which has to run a great distance Eastward and then Northward to empty into the tidal waters at the Eastern sluice, about one-third of a mile to the East of the Quay.

“ There are very few water closets in the town ; such as exist empty their contents into cemented vaults with overflow outlets into the drains, and are emptied as occasion requires.

“ The remaining houses and cottages are supplied with cemented boxes or pails, which are for the most part emptied regularly by the scavenger.

MUNICIPAL BOROUGH OF KING'S LYNN.—See Summary.

MUNICIPAL BOROUGH OF THETFORD.—The Medical Officer reports :—“ There is no system of sewerage in the town, the only drainage being intended only for surface water.

“ A complete house-to-house inspection of the town was made during the year, and you were furnished with a Report as to the sewage disposal in the town. Following this, an expert Sanitary Engineer was called in to advise the Council as to the best means of sewerage the District. At the close of the year the matter was still under consideration. Pending the decision of the Council as to whether a system of sewerage should be adopted, no steps have been taken to alter the existing conditions of the privy vaults, it being manifestly unfair to put the owners of property to this expense if a system of sewerage is likely to be adopted in the near future. If the Council decide not to adopt a system of sewerage for the town, steps ought to be at once taken to have the vaults reconstructed and put into a sanitary condition and rendered watertight. In all cases where the privies are situated in too close proximity to the houses, and where the yard space is insufficient to allow of new ones being built at a safe distance, the present privies should be converted into either earth or pail closets, their contents being removed at least once a week.

“ The surface drains still receive a considerable amount of slop water and other strong sewage, and continue to discharge direct into the river.

“ Toward the close of the year the Council undertook the responsibility of the emptying of the privy vaults, this being a distinct improvement on the previous method. The excrement is disposed of on the land.”

RIVER POLLUTION.

During the year I reported to the County Council as regards the pollution of the River Wensum at Fakenham, and a tributary of the same at East Dereham and Gressenhall. I also reported as to the suggested scheme for treatment of the town's sewage which was being considered by the Downham Market Urban Council towards lessening the pollution of the St. John's Eau. The scheme did not meet with the approval of the Local Government Board. The sewage of Harleston I reported as being discharged untreated into a tributary of the River Waveney, and that of Thetford into the Thet and the Little Ouse.

In the subjoined extracts from the Reports of the District Medical Officers of Health will be found a brief account of what is being done by the District Councils concerned :—

Walsingham Rural.—"A special report was made, at the request of the Local Government Board, on the sewage disposal and water supply of Fakenham, in January, and a scheme proposed by Mr. E. J. Silcock is now under consideration for the re-sewering of the town, and the disposal of its sewage by land treatment at a cost of about £8,000. This will entirely prevent the pollution of the Wensum at this point, into which at present the sewage of the town is discharged in its crude state."

Mitford and Launditch.—"The pollution of the rivers and streams in the district is much less than it was, and does not require much alteration, with the exception of the Workhouse sewage. The works as originally constructed are totally inadequate to take the enormous quantity of water that now comes down from the Laundry. This should be deflected and treated by itself, and then there will be no difficulty in dealing with the rest."

East Dereham.—"The only stream we have to consider in our district is the one into which our sewage effluent is discharged; and during the past year this has necessarily been somewhat polluted, for during the reconstruction of our sewage works the old sewage farm had to be used, and, as is well known, that proved a failure. However, we expect to show much improved results shortly."

Diss.—"I visited the farm on one of the hottest days in July last, and was present during at least one hour of the pumping. I failed to detect the slightest odour of any kind; further, after having all the sewage pumped during this time on to one bed, I took a sample of the effluent as it filtered back into the river, and from my analysis made then, I think we can safely say we do not pollute the water of the river."

Other references will be found among the summaries of the Reports of the District Medical Officers of Health for Aylsham, Downham Rural, Forehoe, Smallburgh, Wells, and Thetford (Borough).

ISOLATION HOSPITALS.

I was instructed by the Sanitary Committee to ascertain the amount of hospital isolation accommodation provided in the County for the isolation of infectious diseases. I am indebted to the courtesy of the Clerks of the various districts for the necessary information, the majority of the returns being comprised in one word, "Nil."

By referring to the large Table of Statistics, it will be seen that of 1354 cases (of notified cases of Scarlet Fever, Diphtheria, and Enteric Fever) only 19 cases of these infectious diseases were removed to hospital, the only districts having or taking advantage of hospital isolation being Cromer, Walsoken, and Forehoe.

To all intents and purposes, therefore, hospital isolation for infectious diseases other than Small-pox may be said to be almost non-existent in Norfolk. For a few years past doubt has been thrown on the utility of isolation hospitals in reducing the incidence of disease, while some writers have actually argued that Scarlet Fever is more persistent in those towns which have provided isolation hospitals than in those which have not, and have quoted statistics in support of their view. But it is well known that statistics can be made to prove almost anything, unless some rigid, logical method of handling and applying them is insisted upon; and such statistics as I have seen to support the anti-hospital theory could not be acquitted of having been "selected" to bear out the writer's theory. It would, indeed, be just as easy to handle other selected statistics in such a way as to bear out an opposite theory. The

efficient isolation of cases of infectious disease is obviously not a purely statistical matter, but it is eminently a common-sense matter. If a disease is infective, and unprotected persons are likely to catch the disease, it is a matter of common sense that the *efficient* isolation of an infected person must reduce his power of infecting others to a minimum. The question is not one of providing hospital accommodation and treatment of *any* sort or kind, but is one of securing *efficient isolation* and *skilful hospital administration*.

In connection with any hospital for infectious diseases, unless a competent medical superintendent, experienced in fever hospital administration, is in supreme and responsible charge, and is provided with an adequate disciplined staff of nurses, it may well be that such an institution may fail to properly effect its purpose.

As I stated in my last Annual Report, it would be a waste of public monies to build an expensive hospital and then to economise on the salaries of the medical and nursing staffs. Far better would it be to provide inexpensive huts or tents, or wood and iron buildings for isolation purposes, and a cottage for nursing purposes, and to ensure as efficient and skilful administration as is obtainable. But the difficulties of providing such administration are certainly very great in sparsely-populated Rural areas.

Dr. Turner Belding says with regard to a single isolation hospital for so large a Rural District as Mitford and Launditch:—"It would be very difficult to move the patients, even if they were willing."

Generally speaking, in Rural Districts sparsely populated, a fixed hospital building would be useless unless adequate ambulance arrangements were also arranged for, and the hospital as centrally situated as possible.

Portable huts or tents, or reserved cottages, which could be utilised for other members of a family when it was found impossible to isolate a case properly, would appear to be a reasonable means to adopt in such thinly-populated areas, the object being then not so much to provide a hospital for the sick as a shelter for those still well, but who would otherwise be constantly exposed to infection in the infected house, which latter could still then be utilised for housing the infected person.

So far as I know, no application was made during 1908 to the County Council for the establishment of an isolation hospital on the lines mentioned in the Isolation Hospitals Act, 1893, which is an Act for enabling County Councils to promote the establishment of hospitals for the reception of patients suffering from infectious diseases.

There is no doubt that the want of hospital isolation is at times severely felt. Mr. Rose, M.O.H. for Swaffham Rural District, urges on his Council "the expediency of coming to some arrangement to isolate the first cases immediately on notification."

In health resorts isolation accommodation would appear to be absolutely necessary in the interests of the resort itself; but in such cases not only should prompt notification be followed by prompt removal to the isolation hospital, but the prompt removal should be followed by prompt and efficient disinfection by steam of all infected bedding, blankets, etc.

The Rural Districts which, according to the returns I have received, have made provision for the isolation of *Small Pox only*, are shown in the following tabular statement:—

Rural District Council.	Construction of Hospital.	No. of Beds.	Original Cost.
Aylsham	Wood and Iron	3	£125
Freebridge Lynn	Ditto	8	£129
Swaffham (Joint with Swaffham Urban) ..	Ditto	4	
Thetford (Joint with Thetford Urban) ..	Ditto	8	£730
Walsingham	Ditto	2	£55
Downham	Tent	4	

The Forehoe Rural District Council utilises a brick-built cottage at Wicklewood for the isolation of cases of infectious disease. Two small rooms (1170 cubic feet and 1344 cubic feet) are used for patients (3 beds). The Loddon and Clavering Rural District are negotiating with the Local Government Board as to the use of a building near the Workhouse. St. Faith's Rural District Council have, by arrangement, a right of use of the Norwich Small Pox Hospital.

Among the Urban Districts—New Hunstanton has a brick-built cottage, East Dereham a portable hospital, while *Cromer* has a brick-built isolation pavilion with six beds, and detached administration block for the nursing staff, and a laundry block with mortuary and disinfecter. The plans were approved by the Local Government Board. £4,350 was the amount of loan sanctioned, and the cost of the Hospital was £3,876 10s. 1d.

Further information will be found among the following references which are made to isolation hospitals among the Reports of the District Medical Officers of Health:—

Rural Districts.

Aylsham.—Dr. Back reports—“An iron building erected near Aylsham in 1902 still remains, and has accommodation for three patients and a nurse. It is furnished for one patient and a nurse, and although it has not been made use of since the reception of the Small Pox case seven years ago, it has been kept in a good state of repair. It cannot be said, however, that the hospital is held in readiness for the reception at any time of a case of infectious disease. Before a patient could be admitted, stores would have to be replenished, a nurse secured, and a tent or some other accommodation provided for a man to act as carrier of water and fuel and general messenger. Arrangements would also have to be made for the conveyance of the patient from, perhaps, some distant part of the District. It will thus be recognised that very considerable expense would have to be incurred before the machinery was set in motion, and some days would elapse before the patient was installed in the hospital. In the meantime, circumstances might have arisen which would render the removal of the patient inadvisable, or the outbreak might have extended beyond the resources of the hospital and made it of no avail. It is for these reasons that the hospital has not been made use of for the isolation of the ordinary cases of Diphtheria and Scarlet Fever which have occurred in the District; and the fact that it has not been so made use of for the last seven years may be taken as proof of its uselessness for such purposes. In the face of this admission, I would still advise that the hospital be retained as heretofore, in a state of repair. It is impossible to say how soon it may be urgently needed for the isolation of another case of Small Pox; or it may, perhaps, one day take its place in a scheme of isolation hospitals for general purposes organised for the County.”

Blofield.—Dr. Back again comments—“The Lingwood Workhouse is provided with an isolation block, which is used, when occasion arises, in connection with this institution. It served a useful purpose some ten years ago when a casual inmate was discovered to be suffering from Small Pox.

“The County Asylum has also provision for the isolation of infectious disease.

“For the District at large, however, no isolation hospital is provided.

“In order to be practically useful in cases of Diphtheria and Scarlet Fever an isolation hospital requires to be maintained in such a state of preparedness as to be ready for the immediate admission of a patient, and a suitable carriage must be in readiness for the conveyance of the patient to the hospital. My experience as your Medical Officer of Health for twenty-four years leads me to the conclusion that the expense involved in the carrying out of these conditions would be altogether out of proportion to the benefits derived from it.

“The population of the District (which is agricultural) is very scattered, and in many instances the cottage in which the patient is living forms a very fair hospital; but, nevertheless, cases occasionally do occur in the more crowded parts of villages where the convenience afforded by an isolation hospital would be welcome.”

Depwade.—“No isolation hospital has yet been erected in your district.”

Docking.—Dr. Sumpter says—“The County M.O.H. promises to discuss the question of hospital isolation in his next Annual Report, so I think it advisable to wait before making any further suggestion to your Council on this important matter.”

Downham.—Dr. Cross writes—“There is no isolation hospital in the district. A small isolation tent with 4 beds is kept in reserve for a possible outbreak of Small Pox. Patients cannot be properly isolated in many of the cottages, nor can effective disinfection be carried out, and there is little doubt but that the continued outbreaks throughout the districts are caused by the impossibility of thoroughly stamping the disease out, and by the reluctance of parents to have medical advice, and so incur the necessary restrictions entailed by notification.

“That some provision for the better isolation of infectious cases is needed is well recognised by you. But the form this should take needs careful consideration. I have already conferred with the County Medical Officer of Health upon this question, and I think he intends shortly to lay his views before his Council.

“To erect a properly-built and equipped Isolation Hospital would hardly be necessary, and far too serious an outlay for such a district as this. On the other hand, a small iron hospital, with the necessary administrative block and upkeep, would cost a considerable sum, and would not, I understand, be entitled to a grant towards its erection.

“Dr. Nash’s suggestion is ‘to have a cottage in reserve for isolation purposes to meet the needs of a small group of villages.’ Attempts were made to do this during the past year, but unfortunately none were available. However, this method is worthy of your consideration, and if it is your wish I will during the coming year investigate the matter.

“Another alternative, which I think is worthy of your consideration, would be to utilize, in the event of the Union Workhouse being no longer required, except as an Infirmary, a block in this large building for isolation purposes. I am of opinion that this step would be quite feasible, especially if taken in conjunction with the Urban District Council, whose interest in the district must be identical with ours.

“The cost entailed, compared with the other proposals, would be very small, as many of the necessary expenses of building and maintenance would not be required, whilst extra nursing could always be temporarily arranged for. Situated as the Workhouse is, and with certain precautions, I do not think there would be any danger to the health of the Urban District.”

Forehoe Rural.—Dr. Lack says—“The isolation cottages are now much improved. Provision for isolating tuberculosis cases is being carried out at the Workhouse.”

Henstead.—Dr. Burton reports—“It is still necessary to deal with infectious diseases in cottages and private houses.”

West Lynn.—“No hospital accommodation available.”

Marshland Rural.—“No accommodation exists for the isolation of infectious cases.”

Mitford and Launditch.—“We have no isolation hospital, in fact, with such a large district it would be very difficult to move the patients, even if they were willing.”

Smallburgh.—Dr. Wright says—“I must again call attention to the want of an isolation hospital, or a cottage kept ready for the purpose, in which to isolate cases when it is impossible for satisfactory precautions to be taken at the patient’s home.”

From the Sanitary Inspector’s Report it appears that on Diphtheria being notified in an overcrowded cottage at East Ruston, “the Council hired a cottage to isolate the patients in, with other patients of the same family who were suffering from Scarlet Fever.”

Swaffham Rural.—Dr. Rose says—“I have visited the Joint Isolation Hospital, and find that it has accommodation for seven beds, and possibly two more in case of need, and is otherwise well equipped.”

Thetford Rural.—“There is no isolation hospital in the district.”

Walsingham Rural.—Dr. Fisher remarks—“In a large and sparsely-populated district as we have, an isolation hospital for the whole would have many drawbacks in the transport of cases, and would necessitate a great expense in its building and upkeep, but I think it would be feasible for the larger towns and groups of villages to have a cottage in reserve for the isolation of suitable cases.”

Wayland.—Dr. Rose reports—“I find there is no provision in the district for isolation. It seems to me that this is a very important matter which should be brought before the Council. Fortunately, during the past year there has been no epidemic infectious disease, but this may not be so in the future.”

Urban Districts.

Cromer.—“The isolation hospital is situated at Roughton, three miles from the town, and consists of two wards containing eight beds, with lavatories and duty rooms attached. There is also a good administrative block, laundry, etc., and a Thresh Disinfector.”

East Dereham.—“The portable isolation hospital has not been used during the year.”

Downham Market.—Dr. Wales writes—“There is no hospital for infectious diseases in the district or available in the neighbourhood. A suitable cottage or small house, provided by the combined Urban and Rural Districts, kept in charge of a handy woman, and available at short notice, would be a useful substitute for an isolation hospital for first cases, when such could not be properly isolated at home, and anything like efficient isolation is absolutely impossible in the small dwellings of the poor.”

Diss.—Dr. Speirs comments—“Looking back on the figures just mentioned, I need hardly say that I feel some satisfaction in that you have followed my recommendation on my appointment in 1905, and that was in closing, or rather, reserving your fever hospital for its original use as a suspect house for any case of Small Pox which may occur. I might qualify the above statement by saying that the buildings, such as they are, without drainage or water, are wholly incapable of coping with any epidemic such as we have had in the past, nor can I see that you would gain anything by spending the large sum of money which would be required to make them so.”

New Hunstanton.—“No cases were sent to the isolation hospital.”

Sheringham.—“We are without a hospital for infectious disease.”

Swaffham Urban.—Dr. Thomas says—“I would like to suggest to the Council the desirability of having the isolation hospital more easily attainable.”

Wells-next-the-Sea.—“As there is no infectious hospital in the district, infectious diseases have to be treated at their own homes.”

King's Lynn.—“An inspection was made of shipping in the Docks, the Port Isolation Hospital, the Small Pox Hospital, the Mortuary at the Cemetery, and the Steam Disinfector.”

SCHOOLS—School Closure.

From the reports of the various District Medical Officers of Health it would appear that at least 89 Schools were closed on account of infectious disease in the County during 1908. Exact figures will be forthcoming in future through the co-ordination of the work of the District Medical Officers of Health with my own work as County Medical Officer of Health and School Medical Officer. Of the 89 recorded closures in 1908, 19 were on account of Diphtheria, 30 on account of Whooping Cough, 5 on account of Scarlet Fever, 1 for both Scarlet Fever and Diphtheria, 3 for Chicken Pox, 5 on account of Influenza, 1 for Mumps, 23 on account of Measles, and 2 for Measles and Whooping Cough together.

The Code of 1908, issued by the Board of Education, introduced some new provisions dealing with the closure of Schools or the exclusion of children from School on medical grounds under the authority of the School Medical Officer. This Officer is defined in Article 44 (g) of the Code as “a Medical Officer named by the Local Education Authority and recognised as such by the Board.” The County Council, inasmuch as they are both Education Authority and higher Sanitary Authority for the County, deemed it desirable to nominate their County Medical Officer of Health as School Medical Officer also, and this was approved by the Board.

Steps have been taken recently by the Medical Inspection Sub-Committee, on my advice, to issue instructions to all Head Teachers to notify, on printed forms, cases occurring amongst their children of any infectious disease (whether notifiable under the Notification Act or not), both to District Medical Officers of Health and to myself as School Medical Officer.

Under the Code, children may be excluded or Schools closed, either as heretofore by the Sanitary Authority of the district in which the School is situated, on the advice of their Medical Officer of Health; or by the Managers, on the advice of the School Medical Officer. Unless Article 57 is strictly complied with, the Board of Education require the approval of the School Medical Officer for any closure advised by the District Medical Officer of Health or other medical practitioner.

Since Article 101* of the older Codes was abolished no grant has been allowed for children excluded from School on reasonable medical grounds. This has been felt by most Medical Officers of Health of experience to be opposed to the best interests of educational as

well as public health requirements. School closure is a serious measure, and in order to avoid this, it may be necessary to exclude certain healthy children, especially infants, who are specially liable to contract any particular infectious disease, of which a case has occurred among the scholars.

Since, however, no Parliamentary grants are made on account of such exclusions, it has become a prevalent custom to secure closure of the whole School rather than to encourage exclusion of individual scholars.

I therefore recommend that the County Council should, in its dual capacity as Local Education Authority and Chief Sanitary Authority, approach the Board of Education with a view to securing, if possible, a renewal of the old epidemic grant, either in its old form or on a reasonably modified basis for children excluded from School (with the approval of the School Medical Officer), as a safeguard against the spread of infection in an outbreak of infectious disease.

Sanitary Condition of Schools.

For some years past the Local Government Board has issued an Annual Memorandum as to the Annual Reports of Medical Officers of Health, indicating the information to be contained in the Report. Amongst the subjects “specially to be borne in mind” as subjects concerning which the Board desire to obtain through Annual Reports of Medical Officers of Health, “not only definite general information, but record also of particular changes of condition that may have occurred incidentally or by action of the local authority,” are specially mentioned:—“Schools, especially public Elementary Schools; sanitary condition of, including water supply; action taken in relation to the health of the scholars and for preventing the spread of infectious disease.”

In the Summaries of the Reports of the District Medical Officers of Health hereafter, will be found a paragraph noting the pith of any remarks made by the Medical Officer of Health of each Sanitary Authority in relation to the Schools in his district.

In a large number of the districts a regular systematic inspection of the School buildings has been instituted. In the Freebridge Lynn District a very comprehensive survey of the 24 Schools was made by the Medical Officer of Health and the Inspector of Nuisances. Excellent tabular reports were also made in connection with some or all of the Schools in the following districts:—Docking, Downham, Flegg (East and West), Marshland, Mitford and Launditch, St. Faith's, Thetford Rural.

ADMINISTRATION IN RELATION TO FOOD SUPPLIES.

With the exception of the City of Norwich, the County Borough of Yarmouth, and the Municipal Borough of King's Lynn, the County Council administers in Norfolk the Sale of Food and Drugs Acts. Other legislation dealing with foods, such as Sections in the Public Health Acts, and the Dairies, Cowsheds, and Milkshops Order, is under the administration of the District Councils.

The County Council employs 3 Inspectors, who are also Inspectors of Weights and Measures, to take samples under the Food and Drugs Acts and submit same to the County Analyst. The Inspectors report quarterly to the County Sanitary Committee, and at the same time the quarterly report of the County Analyst is submitted.

During the year 1908, 138 samples of milk were submitted for analysis, of which 12, or nearly 9 per cent., were reported adulterated. Of 28 samples of butter 1 was reported adulterated; of 9 samples of potted fish and meats 1 was adulterated; of a grand total of 300 samples of all kinds 29, or 9·6 per cent., were adulterated. The County Analyst made the following report:—

“The percentage of adulteration is 2·6 larger than in 1907, but I must state that although it is adulteration, the proportion of the adulterant in many cases is very small as compared with former years—not serious enough for prosecution, but for caution to the sellers.”

Dairies, Cowsheds, and Milkshops.

The second interim Report of the Royal Commission on Tuberculosis, published in January, 1907, stimulated a livelier interest in the supervision of the production of milk, and the Local Government Board exercised pressure on all Rural District Councils. The Reports of the District Medical Officers of Health indicate that the District Councils as a whole were awakening to the importance of a more systematised supervision of the milk supply, as illustrated by the following quotations :—

Aylsham.—"Bye-laws with respect to Dairies, Cowsheds, and Milk Shops were adopted in 1907. There are at present 14 registered cowkeepers in the District. In the course of the year I have devoted some time to the inspection of premises, and have notes of the condition of six. My notes comprise names of occupier and owner, number of cows kept, the disposal of the milk, a description of the dairy as regards dimensions, lighting, ventilation, structure of walls, nature of floor, and drainage ; a description of each cowshed, giving general structure, number of cows in each, cubic space, flooring, drainage, lighting, and ventilation. I have also noted, in most cases, the provision made for milkmen to wash their hands, and as to whether the flanks and udders of the cows are cleaned before milking. I find it important to enquire as to the time during which the cows are actually occupying the sheds, as in some dairies the cows are only in for an hour or two during milking, being out in the open, except in very severe weather, both night and day ; while in others it is the custom for the cows to remain in the sheds for the whole of the 24 hours, with the exception of an hour for exercise in the morning.

"The Bye-laws in force in the District, though somewhat vague, evidently demand that a cowshed should be a building constructed for the purpose of housing cows, and that provision should be made for proper lighting by windows, and that it be properly ventilated ; that the floor should be of a material admitting of being washed, and the drainage arranged so that all liquid matter may be speedily carried to a trapped gulley outside the shed ; and that it at all times be kept reasonably sweet and clean.

"My investigations have shown that it is rare to find a cowshed that was originally built for the purpose. Cows are found housed in a variety of sheds adapted from barns, horse stables, bullock sheds, and bullock shelters surrounding yards. The lighting of these sheds usually depends on open half-doors, although in some instances glass tiles have been fixed in the roof. Ventilation is sometimes effected by cross tiles in the ridge, but more often it depends, as does the lighting, on the half-doors or the chinks between the boards forming one of the walls. The floors are rarely found to be of a material that can be washed. In adapted horse stables the cobble stones remain, and in adapted barns and bullock sheds, clay and rubble often form the floor. The use of water in the cleansing of the floors is almost unknown. The nature of the floors often renders any drainage of the shed of no avail. In some instances the manure is allowed to remain, fresh clean straw being placed on the top of the old, as is the custom in bullock keeping.

"Although the above is a fair description of the general conditions prevailing, there are, I am glad to say, some notable exceptions.

"The importance, from a public health point of view, of a pure milk supply, cannot be denied, and it is equally certain that it is the duty of a Rural Sanitary Authority, in addition to securing a wholesome supply for home consumption, to ensure that milk destined for the supply of urban populations should leave its District in a clean and unpolluted condition.

"I am not prepared to advise any sweeping reforms, especially having regard to the promise of the President of the Local Government Board of a Pure Milk Bill before the end of the present Session. I believe the inspections I have made have not been altogether without effect in improving the condition of existing premises, but with regard to premises which may be occupied in the future, I desire to draw the attention of the Council to Sect. 7 of the Dairies, Cowsheds, and Milk Shops Order of 1885, which is as follows :—'It shall not be lawful to begin to occupy as a dairy or cowshed any building not so occupied at the commencement of this Order until provision is made, to the reasonable satisfaction of the Sanitary Authority, for the lighting and ventilation, including air-space, and the cleansing, drainage, and water supply, or without giving one month's notice in writing to the Sanitary Authority.'

"I strongly urge on the Council the importance of seeing that this section of the Order is enforced in every case."

Blofield.—"Bye-laws have been in force in the District since May 1st, 1905, but in many instances they remain inoperative owing to the faulty construction of the premises. During the year I have, in company with the Inspector, paid many visits to the premises of registered cowkeepers and made detailed notes of their sanitary condition. In only a few instances I have found the lighting, ventilation, drainage, and construction of the floors up to the standard evidently demanded by the bye-laws which have been adopted. I am glad, however, to report that some improvements have been effected."

Depwade.—"The work of inspection of cowsheds and dairies is continuous; the enforcement of the regulations formed by you will take time, and during the coming year I hope to give much personal attention to the administration. A report upon this subject is now due to you, but a far more complete and I hope a more satisfactory report can be made if a few more months are allowed to elapse before its publication."

Downham.—"There are nine dairies and cowsheds registered in the district, and these have been periodically visited and found satisfactory."

"I have in my last three Annual Reports dealt with the milk supply and the conditions of some of the registered dairies, and have nothing further to add."

A remark in the Report of the M.O.H. for Downham Rural District for the year 1907 calls for the following quotations from the Order of 1885:—

Section 6. "(1) *It shall not be lawful* for any person to carry on . . . the trade of cowkeeper, dairyman, or purveyor of milk *unless he is registered.*

"(2) Every Sanitary Authority *shall keep a register* of such persons, and shall from time to time revise and correct the register.

"(3) The Sanitary Authority *shall register every such person*, but registration shall not be deemed to authorise such person to occupy as a dairy or cowshed any particular building, or preclude proceedings.

"(4) The Sanitary Authority *shall from time to time give public notice of registration being required, and of the mode of registration.*

"(A person who only makes and sells butter or cheese, or both, and *who is not also a purveyor of milk*, need not be registered, nor need a person who sells milk of his own cows *in small quantities to his workmen or neighbours for their accommodation.*")

Erpingham.—"Unsuccessful application has been made to the Local Government Board for guidance in the matter of drawing the line between those who are exempt and those who come within the requirements of this Order (D.C. and M. Order, 1885).

"There has been great need for improvement in the conditions under which the milk business is carried on at many farms."

Henstead.—"Several of the dairies and cowsheds on the register are up to the standard as laid down in the Regulations under the Dairies, Cowsheds, and Milkshops Order, 1885. These are well drained, paved, channelled, lit, ventilated, and have ample air space. But for the most part they fall short of the standard as laid down in the Regulations. Many of the cowkeepers take an intelligent interest in keeping their cowsheds well cleansed and lime-washed, and in only two cases were there cowsheds which had not been daily cleansed.

"The dairies as a whole are in a satisfactory condition, but in a few cases the milk is stored in sheds, in others the milk has to be carried through the living room or kitchen before it reaches the dairy; but many are well constructed. The dairies are kept clean by daily cleansing and frequent use of the limewash brush, and in no case was a dirty dairy found. The lessee cowkeepers (1 to 3) have often to store their milk under adverse conditions, and it was frequently found stored in a larder for lack of better accommodation."

Mitford and Launditch.—"Of the 37 dairies and cowsheds inspected, 17 may be classified as good, 18 as moderate, and 2 as bad. The things that chiefly call for notice are:—

"1st—The cowhouses are not cleaned as often as they should be, but the manure is allowed to accumulate for weeks.

"2nd—The cows are not cleaned before milking, so it is obvious that particles of dirt must get into the milk.

“3rd—Most of the dairies are paved with brick laid direct on the ground, so the interspaces become saturated with the washings.”

St. Faith's.—“During the year I have visited most of the dairies and cowsheds in the districts, and I am glad to be able to report that most of these are now in a far more cleanly condition than they were a year or so ago. There is still much to be done in connection with many of these buildings, but such improvements as one would wish to see effected can often only be carried out gradually.”

Smallburgh.—“Cowsheds and dairies are not always all that could be desired.”

Swaffham Rural.—“Under the Dairy, Cowsheds, and Milkshops Order of 1885, the various premises were duly visited by the Inspector, and found to be generally only in a moderately satisfactory condition. No register has been kept of all these premises, but one is now in course of preparation.”

Thetford Rural.—“Many of the cowsheds are far below the standard. . . . More stringent measures ought to be taken by the Council.”

Walsingham.—“Cowsheds and dairies have all been visited and reported upon in May; recommendations as regards ventilation and drainage have been carried out in eleven cowsheds. The chief defects are the above, the close proximity of the cow-yards to the milking-sheds, and want of cleanliness on the part of the men when milking. The milk itself is always strained, and the dairies and utensils kept scrupulously clean. The cows all appear to be healthy, and no disease has been traceable to the milk supply in the district.”

Urban Districts.

Cromer.—“I have given great attention to the dairies and cowsheds in the District, which were in a bad state, and am pleased to report that they are all now in good order.

“The milkshops on inspection I found very satisfactory.”

Downham Market.—“There are five dairies and cowsheds in the District, which have been periodically inspected. In one case inefficiently-drained yards were promptly remedied by the landlord on his attention being called. The Bye-laws adopted in 1899, framed upon the model Bye-laws drafted by the Local Government Board, deal adequately with cleansing, ventilation, drainage, and lighting, and have been observed.”

Sheringham.—“Bye-laws are adopted under the Dairies, Cowsheds, and Milkshops Order of the Local Government Board. Cowkeepers and milksellers are registered, and their premises inspected at intervals.

“There are two cowsheds within the area, and in these about ten cows are milked. They are not of modern construction, and an attempt is being made to provide for impervious floors, adequate ventilation, drainage, water supply, and general cleanliness.

“The milkshops have all been personally visited, and a serious attempt made to impress the milkseller with the spirit of the Bye-laws, which in one word is ‘cleanliness.’

“Tracing the milk of an admittedly healthy non-tuberculous cow, from the udder to the lips of the consumer, it has been pointed out to the cowkeeper that the udder and teats of the cow, as well as the hands of the milker, should be cleansed before the milk is drawn into a pail cleansed by scalding water and subsequently protected from dust. That the cooler through which the milk is passed should be cleansed in a similar manner. That the milk cans in which the milk travels should be similarly dealt with. To the milkseller it has been pointed out that the pans which receive the milk in the milkseller’s shop should be cleansed by scalding water, as well as covered from dust and flies; that the utensils used in the trade should be kept clean and covered. To the consumer it is being daily preached that it is necessary to take the milk in a clean jug and keep it in a clean place, which at the same time is cool and affords protection from dust and flies.

“We feel sure the milk supplied to Sheringham is good. In the winter we think it is above the average. The difficulty arises during the summer, when the population goes up, and with it the quantity of milk required.

“It is then that supplies should be taken for analysis, and particularly from the carts of itinerant vendors.

“ As Officers of an Urban District Council we do not administer the Sale of Food and Drugs Act, the responsibility lying with the County Council. To them we would suggest the advisability of their Inspectors taking frequent supplies of milk during the early morning hours at all the seaside resorts along the Norfolk coast, to impress the small retailer who sells milk from a cart and not from a shop, that supervision is exercised and caution necessary.

“ The question of improvement in the milk supply of any community is a difficult one. The Sale of Food and Drugs Act provides penalties for the selling of impoverished or watered milk, but unfortunately omits to fix a standard and provide penalties for the selling of milk contaminated with dirt and bacteria.”

Thetford.—“ The milk supply in the town is fairly good, considering that the neighbourhood is a very poor grazing one. Great improvement has taken place during the year in the condition of the cowsheds. With two exceptions they may now be pronounced in very good order. Frequent samples of milk are taken and tested by lactometer, but rarely show sufficient adulteration to justify sending samples to the Public Analyst. One prosecution was instituted by the County Council.”

King's Lynn.—“ All cowsheds and dairies have been regularly visited. Two cowsheds were reported on as being insanitary, and without a sufficient and proper water supply; proceedings were taken against the owner in one case, and a Magistrates' order obtained; the other cowshed was put into a sanitary condition and a proper water supply provided without appealing to the Magistrates.

SLAUGHTERHOUSES AND BAKEHOUSES; AND MEAT INSPECTION.

The Reports generally state that these were regularly inspected, and generally were found in good and cleanly condition.

In *King's Lynn*, 3 whole carcasses and 6 part carcasses of beef were destroyed on account of being found tubercular; 2 whole carcasses of pork were destroyed on account of being found “ measly.”

In *Cromer*, an insanitary fish shop was closed by the Council.

In *Walsingham*, bye-laws in connection with slaughterhouses have been adopted in 17 parishes out of 54.

Bye-laws are in force with respect to slaughterhouses in Blofield.

Dr. Richardson, M.O.H., Erpingham R.D., asks the Council to authorise the Inspector to seize unsound meat.

Sections 116 to 119 of the Public Health Act are extended by Section 28 of the Public Health Acts Amendment Act, 1890, to all articles intended for the food of man. The Public Health (Regulations as to Food) Act, 1907, gives new powers to the Local Government Board to make regulations for the prevention of danger to public health arising from the importation, preparation, storage, or distribution of articles of food or drink.

DISINFECTION, Etc.

Quotations from Reports as to disinfection and other measures apart from hospital isolation :—

BLOFIELD.—“ In all cases of Scarlet Fever a sheet of ‘ Instructions to Householders ’ has been sent, accompanied by a supply of Jeyes' Fluid. At the end of the case each cottage has been fumigated with formic aldehyde vapour, and the children have not been allowed to return to school until a certificate has been given by a medical man stating that they are free from infection.”

Diphtheria.—“ In all cases among school children a certificate from a medical man stating that the throat has been shown by bacteriological examination to be free from infection is required before the child can return to School.”

SHERINGHAM.—“ The Council are considering the question of equipping a Washington-Lyons Disinfector and Disinfecting Station. The system at present adopted is rigorous isolation at home, exclusion of contacts from the schools, inspection of school children by the schoolmasters and mistresses and by the Medical Officers when required, combined with frequent surprise visits by the Sanitary Inspectors, and the holding up of the penalties of the Infectious Disease Prevention Act.”

The Medical Officers evidently distrust their present methods of disinfection (by formalin spray and vapour), for they state that "at present we look upon the return of Scarlet Fever in the Spring as evidence of faulty disinfection of articles, or dust resurrected during the Spring cleaning." They do not, however, instance any particulars which have led them to this general conclusion. Be this as it may, bacteriological experimentation has clearly demonstrated that for bulky articles such as bedding (mattresses, etc.), steam disinfection is the most reliable means of disinfection, steam rapidly penetrating into the interior of such articles and destroying germs or other forms of organic life without injury to fabrics—(steam is, however, inadmissible for leather goods).

WELLS.—"The Sanitary Authority possesses no special apparatus for the disinfection of clothing, bedding, etc., and has to depend upon the use of disinfectants and fumigation with formalin and sulphur dioxide."

THETFORD, URBAN.—After detailing the usual methods of inquiry, supply of disinfectants to the infected households, exclusion of contacts from schools, etc., Dr. Harris describes the methods of disinfection at the termination of a case. The Sanitary Inspector disinfects "by means of a formalin lamp and spraying the floors, walls, and ceilings with a solution of formalin. The houses are then thoroughly cleaned and the walls usually stripped and repapered. . . . As the Council have not seen their way to provide a steam-disinfecting apparatus for the purpose of disinfecting clothes, bedding, etc., the Sanitary Inspector has received instructions to destroy by burning all articles which in his opinion cannot be efficiently disinfected by the means at our disposal, the owners to be compensated by the Council."

Further information will be found under heading "Methods of Dealing with Infectious Diseases" in the "Summaries of Reports" at the end of this Report.

ADMINISTRATION OF THE MIDWIVES ACT, 1902.

Although the County Council appointed a Lady Inspector of Midwives some years previous to the appointment of a County Medical Officer of Health, the administration of the Midwives Act is so unquestionably a branch of preventive medicine that no County Health Report would be complete which made no reference to it, especially in view of the fact that the Act of 1902 comes into full play on April 1st, 1910. After that date, the enactment is that unless a woman is certified under the Act, she shall not make a practice of attending women in childbirth for gain, otherwise than under the direction of a qualified medical practitioner. The smooth working of the Act must therefore depend largely upon the medical profession. The Midwives Act omitted to make provision for the payment of Doctors called in by a Midwife. To try and meet this difficulty the Local Government Board in 1907 issued a circular to Boards of Guardians, reminding them of their powers under 11 and 12 Victoria, Chap. 110, Sec. 2, to pay such fees without any previous relieving order having been issued, but the dilatoriness of the Guardians generally in taking advantage of these powers resulted in some medical men refusing to attend when summoned by Midwives unless their fees were well assured. Miss Boyce, the Lady Inspector of Midwives, instanced such a case in Norfolk in the early part of 1908, and this, no doubt, assisted the Boards of Guardians throughout Norfolk to arrange to pay a fee of £1 in every case where a Doctor was summoned by a Midwife to an urgent midwifery case. I was myself consulted on the matter by more than one Chairman of a Board of Guardians.

About 4000 births, or rather over two-thirds of the total number of births in Norfolk, are attended by the Midwives in the County.

A Departmental Committee, appointed by the Privy Council to consider the question of the possibility of a dearth of Midwives when the Act comes into full force in 1910, has come to the conclusion that the difficulties will be more apparent than real, and will be met by intelligent and effective organisation. Miss Boyce estimates the actual shortage in Norfolk which will arise at about two-thirds the number now practising. Properly-trained and certified women must be found to take the place of the incompetent women who will be taken off the roll.

Many Counties have been making arrangements towards meeting this need. I learn from the Report of the County M.O.H. that in Hertfordshire, for instance, the Countess Cowper and the Marchioness of Salisbury have pioneered a scheme under the County Nursing

Association. A Training Home at Watford has been opened. In January, 1909, the Herts County Council passed a resolution of the Higher Education Committee to make a grant of £25 to the County Nursing Association towards the training by them of each woman in the practice of midwifery up to £100 in any one year.

Again, the County M.O.H. reports that in Nottinghamshire an urgent appeal, signed by the Duchess of Portland and other prominent ladies, has been made to raise a special fund to secure £200 a-year for two years towards the training of suitable women—and so forth.

Nor has Norfolk been behind in the matter. In February, 1909, Colonel Dawson and the Rev. N. W. Paine attended as a deputation from the Norfolk Nursing Federation to lay before the Higher Education Committee certain suggestions for obtaining an increased number of Midwives in view of the provisions of the Midwives Act, 1902. The Committee already give aid to the training of Nurses, but with a view to meeting the demand for Midwives in Norfolk the Committee decided for the next two years—

(a) To award 10 Probationary Scholarships of the value of £2 a month, the maximum value of a Scholarship not to exceed £6.

(b) To award 10 Scholarships for the training of 10 Midwives, each Scholarship to be of the value of £30.

(c) That the grant for the above-mentioned Scholarships should not exceed £360 per annum.

Among institutions for safeguarding the public health must be included nursing associations and federations.

The Norfolk Nursing Federation was founded in 1899, with the object of encouraging and increasing the supply of cottage and district nurses in the agricultural parts of the County. A cottage nurse is supposed to be able to serve a district of two or three miles radius, with about 1200 inhabitants. She generally combines general nursing with that of a midwife. She works only in purely rural districts, and receives £25 a-year, lodging and boarding in the houses of patients, and helping them to some extent in their housework. A district nurse lives in her own rooms, and merely pays visits to see to the nursing of the patients she has to manage.

The Norfolk Nursing Federation advises parishes and districts in forming and managing nursing associations, and such associations can be affiliated to the Federation if the nurse employed has had at least six months' training in recognised institutions (subject to other business provisos also). Certain rules have been drawn up to be observed by all Federation Nurses, among which is an important rule forbidding the nurse from prescribing medicine, or in any way usurping the functions of a medical man. *This rule ought to be most strictly enforced.*

The income of £40 per annum from all sources is required for the employment of a cottage nurse, and about £55 for a district nurse; and the money is raised by annual subscriptions, donations, and church and chapel collections, while some of the patients pay small fees. Boards of Guardians are also empowered to give grants, and other fees can be raised on a provident basis.

The Federation is made up of affiliated associations, which are thus enabled to strengthen and support each other.

Rules are drawn up for the guidance of local secretaries with regard to lending nurses.

FACTORIES AND WORKSHOPS.

Each District Council is the Authority responsible under the Factory and Workshop Act, 1901, for the sanitary condition of the workshops and workplaces within its area of sanitary administration. I have endeavoured to prepare a tabular summary of the work done by the various District Councils from the forms prepared by the Home Office to be filled in by each District Medical Officer of Health and incorporated in his Annual Report.

This concludes my Annual Report for 1908, but I attach brief summaries of the various District Medical Officers' Reports. These are much appreciated by some members of the County Council for ready reference. I also append a Summary Table, which gives some idea of the important work carried out by the Sanitary Inspectors of the various District Councils, so far as such work can be tabulated.

I have the honour to be, my Lords and Gentlemen,

Your obedient Servant,

J. T. C. NASH.

METEOROLOGICAL NOTES FOR 1908.

For the following I am indebted to observations taken at Norwich by Mr. Arthur W. Preston, F. R. Met. Soc.

Barometer (reduced to sea level and 32 deg. F.)—

				Ins.
Highest (February 7th)	..	..	..	30·66
Lowest (December 10th)	..	..	..	28·73
Mean	..	..	..	29·994

Temperature—

				Deg.
Maximum (August 3rd)	..	..	..	81·0
Minimum (January 5th) in screen	..	..	..	17·0
Minimum (January 12th) on grass	..	..	..	14·0
Mean daily maximum	..	..	..	55·7
Mean daily minimum	..	..	..	42·4
Mean temperature of year	..	..	..	49·0
Mean daily range	..	..	..	13·3
Mean dry bulb (9 a.m.)	.	..	..	49·6
Mean wet bulb (9 a.m.)	.	..	..	46·7
Mean dew point (9 a.m.)	..	..	..	43·7
Mean relative humidity (9 a.m.)	..	..	..	80 p.c.

Number of nights with frost—

In screen	..	..	..	56
On grass	..	..	..	108

Rainfall—

				Ins.
Total fall	..	..	..	25·16
Below average by	..	..	..	·59
Greatest fall in one day (July 13th)	..	..	..	1·80
Number of days on which rain or snow fell	..	..	..	221
Number of days on which snow fell	..	..	..	27

Wind—Prevailing directions W. and S. Gales on 13 days.

Notes on the Months.

JANUARY.—The first week delightful Winter weather, with wind frosts and brilliantly sunny skies. Remainder of the month changeable, with much fog in the third week. Mean temperature about a degree and a-half under the average. Altogether a fine, seasonable month, although the coldest January since 1897. Snow fell on five days. Total month's rainfall was ·57 below the normal.

FEBRUARY.—A mild month, with Westerly winds. First half, dry; latter part, rainy. Snow fell on three days only. No great severity was recorded. The chief feature of the month was a remarkable thunder-squall, which occurred on the afternoon of the 22nd.

MARCH.—Winterly weather prevailed with snow. Mean temperature was a degree under the normal. Rough winds blew on several days. There were constant fluctuations of the barometer.

APRIL.—Earlier part mild. On the 19th an exceptionally severe winterly period was ushered in. Snow fell almost daily. The mean temperature of the month was 3·4 degrees below the average.

MAY was warm throughout, which is rarely the case in May, and the mean temperature of the month was the highest for forty years past. Mean temperature was 4·4 degrees above the average, the thermometer failing to reach 60 degrees on only three days, and exceeding 70 degrees on four days.

JUNE.—The first four days were exceedingly warm, culminating in a series of thunderstorms. Rain fell almost daily to the 17th. From the 19th the weather was very fine. The mean temperature of the month was slightly above the average, and the rainfall about three-quarters of an inch deficient.

JULY.—From the 7th to the 16th frequent barometric depressions passed across the country, accompanied by very heavy rains. The last ten days of the month were practically rainless, and the weather very fine. The mean temperature of the month was in close agreement with the average. No very exceptional heat was experienced.

AUGUST, after a few similar fine days, was very cool and cheerless, with rain. Mean temperature was two degrees deficient. Great fluctuation of temperature, but there were very few really warm days after the first week.

SEPTEMBER.—On September 1st a cyclonic storm of a severity but rarely equalled so early in the Autumn swept across the country. Much chilly and cheerless weather followed. At the end of the month a heat wave set in, and the last two days and nights were most unseasonably warm. Total rainfall was '30 ins. above the average.

OCTOBER.—The hot, cloudless days and blazing sunshine of the first week of the October of 1908 will not readily be forgotten. On the first four days the screened thermometer reached 76 deg., 78·4 deg., 77 deg., and 72·6 deg. respectively, the first three values being the highest on our registers for October, the previous maximum having been 75·5 deg. in 1901. The weather continued warm till the 15th. The mean temperature of the month was 4·2 deg. above the average, and the rainfall over 50 per cent. deficit.

NOVEMBER.—Dry and pleasant, with some rather sharp frosts. The rainfall of the month was 1·12 in. below the average, and there was no snow. Mean temperature was high (about 1 deg. above the normal), constituting the third warm November in succession.

DECEMBER entered dark and dismal. The weather continued mild over Christmas, but on the 27th a short but sharp snap of cold occurred, which lasted four days, disappearing on the 31st as suddenly as it had come. The ground was thickly covered with snow.

Notes on the Year.

The mean temperature of the three Winter months was 0·8 deg. above the average temperature. The rainfall of this period was 0·84 in. in excess. The coldness of March and the severity of April were counterbalanced by the unusual warmth of May, thereby causing the mean temperature of the three Spring months to be exactly normal. The rainfall of these three months was 1·84 in. above the average. The mean temperature of the three Summer months was half a degree deficient, and the rainfall 0·43 in. in excess. The Autumn, which was very fine and warm, was 1·4 deg. above the average temperature, with a rainfall as much as 2·44 in. deficient. The later Autumn was one of the finest and warmest seasons on record.

General Summary.

Month.	TEMPERATURE.				RAINFALL.	
	Max. deg.	Min. deg.	Mean. deg.	Total. ins.	Days with rain.	Greatest fall in 1 day. ins.
January	54·6	17·0	35·9	1·13	21	·30
February	52·0	29·0	40·6	2·17	19	·24
March	61·4	26·0	39·9	2·51	25	·32
April	59·6	28·2	42·9	2·67	19	·81
May	77·2	39·8	56·0	1·79	14	·38
June	79·0	39·8	58·9	1·20	15	·23
July	80·5	45·0	61·5	3·49	13	1·80
August	81·0	43·0	59·0	2·61	19	·62
September	76·6	37·0	56·7	2·91	15	1·50
October	78·4	30·6	53·5	1·40	19	·32
November	56·8	23·4	44·7	1·63	16	·52
December	49·0	22·6	38·7	1·65	26	·26
Year ..	81·0	17·0	49·0	25·66	221	1·80

Comparative Table.

Year.	TEMPERATURE.				RAINFALL.	
	Max. deg.	Min. deg.	Mean. deg.	Total. ins.	Days with rain.	Greatest fall in 1 day. ins.
1900 ..	87·2	18·4	49·6	26·99	222	1·23
1901 ..	83·5	9·2	48·8	21·06	175	1·60
1902 ..	83·4	14·0	48·4	22·30	192	·80
1903 ..	86·0	24·8	49·5	29·44	208	2·28
1904 ..	87·6	21·0	49·3	21·50	180	·60
1905 ..	82·6	21·4	49·0	22·96	205	1·05
1906 ..	93·0	15·8	49·7	28·54	202	1·05
1907 ..	80·0	14·8	48·4	26·25	231	·74
1908 ..	81·0	17·0	49·0	25·16	221	1·80

I hope that in my next Annual Report—that for 1909—I shall be able to give some comparative figures of rainfall in different districts in the County.

SUMMARIES OF REPORTS OF DISTRICT MEDICAL OFFICERS OF HEALTH.

RURAL DISTRICT COUNCIL.

AYLSHAM.

Medical Officer of Health, H. H. BACK, M.B.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	69,341
Population	1901 Census	17,053
Population	1908 Estimated	16,773
Deaths registered in the District		401
Corrections—Additions		0
	Deductions	0
		10 years' mean.
		1908. 1898—1907.
Nett Death Rate		14·3 14·9
Zymotic		1·25
Infantile Mortality		89·7 107·5
Birth Rate		23·9 24·0
Cases of Infectious Diseases per 1000 population		2·44

CHIEF OCCUPATION OF INHABITANTS.—Agricultural.

HOUSE ACCOMMODATION.—The type of cottage varies in different localities ; what can only be described as hovels still exist in certain parts, such as Buxton Heath and Hevingham. The Inspectors have notes of the sanitary condition of 500 cottages of £5 gross rental and under. These are being entered in a register.

SEWERAGE AND DRAINAGE.—In the drainage of Aylsham, Reepham, Cawston, and Foulsham, old surface water drains have been adapted as sewers. Untrapped gullies are being replaced by Doulton road gullies, and ventilating shafts are being erected.

POLLUTION OF RIVERS AND STREAMS.—The drainage of the various villages terminates in meadow-ditches, which, though as a rule a considerable distance from the river, form part of the basin of the Wensum. [The River Bure is polluted at Coltishall and Aylsham.]

EXCREMENT DISPOSAL, HOUSE REFUSE.—A Public Scavenger provided at Aylsham at a cost of £78, the Sanitary Authority finding a suitable cart.

WATER SUPPLY.—No public supply. Six new wells have been sunk, ten cleaned out, and two repaired.

SUPERVISED PREMISES.—14 Registered Cowkeepers. The M.O.H. has personally visited and noted condition of six premises in the year, and made very thorough enquiries and full notes, which he comments upon in general terms, but does not advise any sweeping reforms pending the passing of the promised Milk Bill, but he draws attention to Sec. 7 of the Order of 1885. 19 slaughterhouses and 25 bakehouses in the district have been inspected during the year ; 19 inspections were made under the Factories and Workshops Act, 1901, and 3 defects remedied.

SCHOOLS.—Improvements were effected at Aldborough, Corpusty, and Aylsham in regard to the sanitary offices.

BYE-LAWS.—With regard to dairies, cowsheds, and milk-shops, bye-laws were adopted in 1907.

NUISANCES.—A large proportion due to privies and ashpits. These are being gradually replaced by pail system. 126 have been so converted, and 45 ashpits have been replaced by sanitary dustbins. 114 minor nuisances abated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Home isolation as far as circumstances permit of notified cases. Prophylactic injections of antitoxin for limiting outbreaks of Diphtheria. Precautionary swabs for bacteriological examination from throats of children recovered from Diphtheria before allowing them to return to School. Closure of

Schools. Disinfection of infected premises. An iron building is kept in readiness for use only to isolate in case of Small Pox.

SYSTEMATIC INSPECTIONS made by the M.O.H. in company with the Inspectors. Special attention was given to dairies during 1908. The Sanitary Committee every fortnight carefully review the Reports of the Inspectors, and the carefully-drawn Reports are good evidence of the large amount of useful sanitary work carried out in the district.

RURAL DISTRICT COUNCIL.

BLOFIELD.

Medical Officer of Health, H. H. BACK, M.B.

The Report is Typewritten.

Area in Acres	1901 Census (exclusive of inland water)	..	43,734	
Population	1901 Census	..	10,928	
Population	1908 Estimated	..	19,718	
Deaths registered in the District	..	..	151	
Corrections—Additions	..	..	0	
	Deductions	..	0	
				10 years' mean.
				1908. 1898—1907.
Nett Death Rate	..	..	14.08	13.4
Zymotic „	..	..	1.02	
Infantile Mortality	..	..	128.4	95.0
Birth Rate	..	..	23.8	23.0
Cases of Infectious Diseases per 1000 population			4.29	

CHIEF OCCUPATION OF INHABITANTS.—Agricultural.

HOUSE ACCOMMODATION.—Reported on in the M.O.H.'s Reports for 1903, 1906, and 1907. During 1908 the M.O.H. certified two houses under the H.W.C. Act, 1890, as unfit for human habitation. A closing order was obtained in respect of one of these. A register of dwelling-houses is being compiled by an Inspector.

SEWERAGE AND DRAINAGE.—In recent years the drainage of the villages of Acle, Blofield, Freethorpe, and Upton has been improved, in the opinion of the M.O.H., by adapting the surface drains for the carriage of sewage. Outfalls are carried well away from dwelling-houses, road gullies are trapped, and ventilating shafts have been erected. For Thorpe Village a scheme of sewage disposal prepared by Mr. A. J. Martin, M.I.C.E., for a prospective population of 2000 persons, has been under consideration and the general idea accepted. At Brundall new houses have been erected with water-closets draining to cesspools. These have given rise to nuisances and complaints, and the M.O.H. comments on the likelihood of the purity of the water supply becoming endangered. He suggests that the time has arrived for the District Council and the Parish Council to consider "whether it would not be more economical and better in every way to provide an efficient system of sewage disposal."

EXCREMENT DISPOSAL is generally by means of privies. The Inspector of Nuisances has prepared plans to scale for both pail and bin privies, which are approved of by the M.O.H., who suggests that owners of properties should be furnished with copies. During 1908 122 bin privies were converted to the pail system. The Village of Thorpe is scavenged, there being on the Scavenger's list 222 pail privies, 58 sanitary dustbins, and 10 ashpits.

WATER SUPPLY.—Generally from wells.

SUPERVISED PREMISES.—One new slaughterhouse added to the register. In company with the Inspector the M.O.H. has paid many visits to cowsheds. In only a few instances are they up to the standard demanded by the bye-laws. The M.O.H. draws special attention to Sec. 7 of the Order of 1885. The bakehouses were under inspection and were reported "satisfactory."

BYE-LAWS with respect to slaughterhouses are in force, so also for dairies and cowsheds; “but in many instances they remain inoperative owing to the faulty construction of the premises.”

NUISANCES.—The M.O.H. reports that Mr. King, the Inspector of Nuisances, has devoted a large share of his time and energy to his duties in this capacity, as proved by his Report.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—The Lingwood Workhouse and the County Asylum possess isolation blocks which are used when infectious disease breaks out in these institutions, but for the District at large there is no Isolation Hospital. The cases are isolated as far as practicable at home, and precautionary pamphlets are issued, disinfectants supplied free of charge, and disinfection of the sick room by means of fumigation is provided at the termination of the illness.

RURAL DISTRICT COUNCIL.

DEPWADE.

Medical Officer of Health, J. C. R. ROBINSON, M.B.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	77,631	
Population	1901 Census	..	20,489	
Population	1908 Estimated by M.O.H.	..	19,817	
Deaths registered in the District	..	..	257	
Corrections—Additions	..	..	2	
Deductions	..	..	0	
				6 years' mean.
			1908.	1898—1907.
Nett Death Rate	..	..	13·1	13·6
Zymotic	„	..	·4	
Infantile Mortality	..	..	78·3	96·0
Birth Rate	..	..	21·9	
Cases of Infectious Diseases per 1000 population			2·01	

CHIEF OCCUPATION OF INHABITANTS.—Agriculture. Maltings, corn mills, a brush and mat factory in Roydon. Hosiery works in Harleston. Mineral water works, Harleston and Bunwell. Brickmaking.

HOUSE ACCOMMODATION.—As a whole sufficient in number of houses, but insufficient in way of construction. The M.O.H. advises the adoption of bye-laws in order to enforce the fulfilment of the laws of modern sanitation. Several houses have been rendered more habitable, and 10 new ones erected.

SEWERAGE AND DRAINAGE.—The need for a completely new drainage system in Harleston has been for some time apparent, the question of a public water service is under discussion, and as one is necessary to the other, it is to be hoped that both needs will be provided.

EXCREMENT DISPOSAL.—Usually by pail closet or privy.

HOUSE REFUSE.—No public system for disposal. Each householder responsible for the disposal of his own. Through ignorance, nuisances arise in consequence.

WATER SUPPLY.—No public service; chiefly shallow wells. A few larger houses have deep wells into the chalk. 18 samples analysed, 1 well closed. New wells sunk in 5 parishes and 9 certificates granted under the P.H. (Water) Act, 1878. Rain water the only supply in many cottages.

SUPERVISED PREMISES.—Slaughterhouses and bakehouses regularly inspected, and notices served where required. A new slaughterhouse at Hempnall. The inspection of cowsheds and dairies is being continued, and the M.O.H. promises a Report thereon.

SCHOOLS.—During the year 4 Schools were closed on account of Measles, 9 on account of Whooping Cough, and 1 on account of Scarlet Fever.

BYE-LAWS.—The M.O.H. advises the adoption of building bye-laws. Bye-laws were adopted on the advice of the Local Government Board to deal with tents, vans, sheds, and similar structures.

NUISANCES.—199 nuisances found in connection with 1,486 premises inspected.

RURAL DISTRICT COUNCIL.

DOCKING.

Medical Officer of Health, B. G. SUMPTER, M.B.

The Report is in Manuscript.

Area in Acres	1901 Census (exclusive of inland water)	..	87,481	
Population	1901 Census	.. ..	15,741	
Population	1908 Estimated	.. ..	15,741	
Deaths registered in the District	.. ..	214		
Corrections—Additions	.. ..	0		
	Deductions	.. ..	6	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	.. ..	13·2		14·2
Zymotic „	.. ..	1·27		
Infantile Mortality	.. ..	112·6		104·3
Birth Rate	.. ..	22·5		24·7
Cases of Infectious Diseases per 1000 population		4·95		

HOUSE ACCOMMODATION.—5 houses condemned and closed, 4 on a Magistrates' Order. 28 new houses erected and certified.

SEWERAGE AND DRAINAGE.—New systems in 27 instances. Two portions of different sewers in Snettisham relaid. The drainage from 6 cottages, which formerly emptied into a creek near some shellfish lays at Brancaster Staithe, has been diverted.

WATER SUPPLY.—I believe the Heacham water question is now in a satisfactory way towards solution. Two polluted wells were closed by Magistrates' Order in South Creake.

SUPERVISED PREMISES.—Registers are kept under the Factory and Workshop Act and Dairies, Cowsheds, and Milk-shops Order. A register for slaughterhouses is being compiled. The various premises are periodically inspected.

SCHOOLS.—Six Schools were thoroughly examined and reported on.

BYE-LAWS.—No building bye-laws in force.

NUISANCES.—87 Statutory notices were served, but in all 459 (8 left over from the previous year) nuisances were abated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Not outlined ; but from the Inspector's Report there were 523 visits to infectious cases, and 11 schools and 58 houses disinfected. In connection with Enteric Fever, well water and shellfish have been bacteriologically examined, and in connection with Diphtheria the District Council has agreed to allow fees for bacteriological examination of throat products. There is no hospital provision for isolation.

RURAL DISTRICT COUNCIL.

DOWNHAM.

Medical Officer of Health, G. F. CROSS, M.B.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	82,834	
Population	1901 Census	..	14,837	
Population	1908 Estimated	..	15,000	
Deaths registered in the District	..	..	211	
Corrections—Additions	..	..	11	
	Deductions	..	0	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	..	..	14·8	15·2
Zymotic „	..	..	1·46	
Infantile Mortality	..	..	131·2	125·2
Birth Rate	..	..	23·8	24·8
Cases of Infectious Diseases per 1000 population			2·4	

DISTRICT divided into 34 Parishes and 3 Sub-Districts. The River Ouse about equally divides the District into an Eastern gently-rising slope, well wooded, with subsoil of gravel and green sandstone, and further Eastwards of chalk. To the West is the edge of the great Fen District, with a subsoil of peat and clay.

CHIEF OCCUPATION OF INHABITANTS.—Agricultural, with the industries incidental to such.

HOUSE ACCOMMODATION.—In the upland portion, sufficient but not adequate; in the Fen District, both insufficient and inadequate. The bedroom accommodation is too limited. “This affects not only the health but the morals of the younger generation.” No larder accommodation in many. There are, however, in many parts many excellent cottages. The M.O.H. gives details of certain properties, some of which have been made habitable. One house was closed as unfit for habitation. Four bad cases of overcrowding were dealt with.

SEWERAGE AND DRAINAGE.—Hilgay and Magdalen sewers have been attended to. A catchpit has been constructed in connection with the Denver sewer.

POLLUTION OF RIVERS AND STREAMS.—The Wissey is polluted at Hilgay by a sewer carrying water from roads and farmyards, etc. The Ouse is polluted before it enters the District. The St. John's Eau is polluted at Downham.

EXCREMENT DISPOSAL.—The Council recommends earth closets where possible, but sufficient care is not taken by all persons to bury the contents. In Hilgay and Fincham there is a Public Scavenger.

HOUSE REFUSE.—As a general rule there is sufficient garden space for each house to dispose of its own refuse by burial. The M.O.H. recommends sanitary metal ashbins and aid in some form for those who have very little space for their refuse disposal.

WATER SUPPLY.—The Marham water is now supplied in many villages.

SUPERVISED PREMISES.—Bakehouses regularly visited. A workshop unfit for use in winter was closed. The slaughterhouses and the 9 registered cowsheds or dairies have been visited regularly.

SCHOOLS.—26 Schools in the District, at which attend 2,724 children (858 infants). “Most of the Schools are well built, with good playgrounds, well lighted and ventilated, well warmed and kept in good condition.” The M.O.H. gives details of such defects in each School as he considers necessary to be remedied.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—On notification, attempts are made at home isolation. There is no isolation hospital, but Dr. Cross recommends to his Council as worthy of consideration a suggestion by the County M.O.H.—“To have a cottage in reserve for isolation purposes to meet the needs of a small group of villages.” Unless a cottage is so “kept in reserve,” experience in 1908 showed none were available when wanted. “In the event of the Union Workhouse being no longer required except as an Infirmary,” Dr. Cross lays an alternative method before his Council.

RURAL DISTRICT COUNCIL.

ERPINGHAM.

Medical Officer of Health, T. W. RICHARDSON, M.R.C.S.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	60,735	
Population	1901 Census	..	16,054	
Population	1908 Estimated	..	17,863	
Deaths registered in the District	..	..	249	
Corrections—Additions	..	..	0	
	Deductions	..	0	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	..	..	13·49	13·55
Zymotic „	..	..	·83	
Infantile Mortality	..	..	92·41	100·54
Birth Rate	..	..	23·62	25·7
Cases of Infectious Diseases per 1000 population			6·6	

DISTRICT.—Mainly agricultural. The seaside towns and villages are popular summer resorts for holiday-makers.

HOUSE ACCOMMODATION.—Private enterprise has provided some additional cottage accommodation in Roughton, Cley, and a few other parishes, but many more cottages are needed to obviate overcrowding.

SEWERAGE AND DRAINAGE.—The scheme for the drainage of West Runton was sanctioned by the Local Government Board. In most of the villages the pail closet system obtains, but in the parishes of Mundesley, Overstrand, Holt, and Aldborough sewerage systems have been provided. Important sewer extensions have been carried out at Overstrand and Holt, and a sewerage of Cley and part of Northrepps has been satisfactorily completed. Part of the Trunch sewer, which discharges in the roadside pit, is about to be relaid. Serious complaints have been received as to the drainage arrangements of Briston village. The chief difficulty in dealing with the matter is the absence of fall for the drainage.

HOUSE REFUSE.—Cley and Holt are making arrangements for a public scavenger.

WATER SUPPLY.—Mundesley, Holt, and Kelling possess public water supplies; Overstrand, East and West Runton are supplied from the Cromer Council's Water Works. There has been a scarcity of water at Felbrigg, which is likely to be overcome by extension of the Cromer water main to Felbrigg Green.

SUPERVISED PREMISES.—“Great difficulty has been experienced in ascertaining which farmers who sell milk or butter should come under the provisions of the D. C. and M. Order of 1885.” 532 visits paid to 235 premises in the course of the year, and most of the defects found have been remedied.

SCHOOLS.—19 Schools or Departments were closed on account of infectious diseases during the year.

BYE-LAWS.—Slaughterhouse regulations sanctioned by Local Government Board. Application been made for confirmation of bye-laws relating to vans, etc.

NUISANCES.—The contractor for the Sheringham U.D.C. having created a nuisance at Beeston Regis, successful proceedings were taken for abatement. The Council sought power under the Private Street Works Act, 1872, to enable them to pave back passages and yards in Holt.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—No isolation hospital. Home isolation and disinfection relied on, but during 1908, in connection with Diphtheria, the Council agreed to pay a fee for each swabbing sent for examination in cases of Diphtheria and suspected Diphtheria.

RURAL DISTRICT COUNCIL.

FLEGG (EAST & WEST).

Medical Officer of Health, W. ROYDEN, M.R.C.S., L.R.C.P.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	30,000	
Population	1901 Census	..	9,191	
Population	1908 Estimated	..	9,909	
Deaths registered in the District	..	..	126	
Corrections—Additions	..	..	0	
	Deductions	..	0	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	..	..	12·6	
Zymotic „	..	..	1·11	No
Infantile Mortality	..	..	104·3	data
Birth Rate	..	..	28·05	given.
Cases of Infectious Diseases per 1000 population				
(excluding Measles)	..	..	4·23	

DISTRICT.—Arable land, grazing marshes, and broads.

CHIEF OCCUPATION OF INHABITANTS.—Agriculture. “ Practically no able-bodied unemployed.”

HOUSE ACCOMMODATION.—“ Some good cottages have been built.”

SEWERAGE AND DRAINAGE.—No regular system. At Caister, sewers have been relaid and provided with manholes and ventilating shafts.

WATER SUPPLY.—The water derived from deep wells is good and abundant. Where shallow wells exist they are liable to pollution. In some parts these could be replaced by a public supply.

SCHOOLS.—Thirteen Elementary Schools. “ All have been kept in a clean and efficient manner.” Particulars are given of two Schools.

BYE-LAWS.—Building bye-laws in force.

NUISANCES.—Eight legal notices served. 108 nuisances abated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—After a case of infectious disease the house is disinfected under the supervision of the Sanitary Inspector. Disinfectants, with instructions, are supplied gratis. No isolation hospital.

RURAL DISTRICT COUNCIL.

FOREHOE.

Medical Officer of Health, T. L. LACK, M.R.C.S.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	38,528	
Population	1901 Census	..	11,329	
Population	1908 Estimated	..	11,329	
Deaths registered in the District	..	..	173	
Corrections—Additions	..	..	0	
	Deductions	..	0	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	..	..	15·3	15·0
Zymotic	„	..	1·32	
Infantile Mortality	..	..	137·1	
Birth Rate	..	..	26·38	23·8
Cases of Infectious Diseases per 1000 population			2·2	

DISTRICT.—23 parishes. The River Yare, with its tributaries, waters a considerable portion of the district. The prevailing soil is loam. 2 parishes, Wymondham (population 4733) and Hingham (population 1377), are really small Urban Districts.

CHIEF OCCUPATION OF INHABITANTS.—Agriculture.

HOUSE OCCUPATION.—Generally sufficient, but some houses not satisfactory. An improvement since the house-to-house inspection. 4 houses in Welborne which were condemned have now been rendered habitable, and 7 houses in Costessey have been enlarged. 12 new houses were built in the year, and seven cases of overcrowding were abated.

SEWERAGE AND DRAINAGE.—The old barrel drains in Wymondham and Hingham, originally constructed for carrying off surface water, now receive the greater part of the sewage.

POLLUTION OF RIVERS AND STREAMS.—At Wymondham, the sewage ultimately discharges into the river.

EXCREMENT DISPOSAL, HOUSE REFUSE.—Water-closets, open privies, and earth closets in use both in Wymondham and Hingham. In the villages, open privies and earth closets, the contents being utilised in the gardens. This indicates the necessity for precaution as to the situation and construction of the wells. At Wymondham a public scavenger is provided.

WATER SUPPLY.—Wells, mostly shallow. Supply sufficient, but quality varies. New wells constructed or old repaired in 7 parishes. 9 out of 10 samples submitted for chemical analysis were reported polluted.

SUPERVISED PREMISES.—Slaughterhouses, bake offices, and cowsheds were regularly visited.

SCHOOLS.—A cursory inspection of all the Schools was made.

A summary of the Inspector's work is given. Systematic inspections of Wymondham, Costessey, and Hingham were made, and special visits to other parts of the district.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—In all cases notified a visit is made and isolation enforced as far as practicable. Enquiries made, disinfectants supplied, and at termination of case the house and clothes (including bedding) are disinfected, or in some cases burnt, compensation being made by the Council. School closure where necessary. There were during the year 12 notifications of Diphtheria, 4 of Scarlet Fever, and 9 of Enteric Fever. Of these, 2 cases of Diphtheria, 1 of Scarlet Fever, and 2 of Enteric Fever were removed to Hospital. The Council agreed to pay for bacteriological examination of throat products in connection with the control of Diphtheria.

RURAL DISTRICT COUNCIL.

HENSTEAD.

Medical Officer of Health, S. H. BURTON, M.B.

The Report is in Manuscript.

Area in Acres	1901 Census (exclusive of inland water)	..	42,398	
Population	1901 Census	..	10,358	
Population	1908 Estimated	..	10,358	
Deaths registered in the District	..	..	128	
Corrections—Additions	..	..	0	
	Deductions	..	0	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	..	..	12·4	
Zymotic	„	..	·58	No data
Infantile Mortality	..	..	59·7	given in
Birth Rate	..	..	19·4	Report.
Cases of Infectious Diseases per 1000 population			5·3	

HOUSE ACCOMMODATION.—3 cases of overcrowding abated. Hethersett was visited by a Special Committee, but owing to lack of houses action was deferred. Bedroom accommodation in cottages is insufficient. “Many cottages were improved during the year, but on the other hand there are owners of property in the district who fail to keep their cottages in decent repair.”

SEWERAGE AND DRAINAGE.—17 new house drains laid to old properties; 30 drains and foul ditches repaired, trapped, ventilated, and cleansed. Where cottages are undrained there is generally ample garden space. No sewerage system in the district except at Trowse Newton, where are situated some of the sewage works of the City of Norwich.

EXCREMENT DISPOSAL.—20 new privies and 7 new pail closets. 14 privies converted into pail closets, and 39 privies repaired. Emptied by the tenants, who bury contents.

HOUSE REFUSE.—Satisfactorily scavenged by private enterprise at Trowse Newton.

WATER SUPPLY.—From surface or deep wells—the latter excellent, the former liable to pollution. 7 samples of water analyzed. 2 wells were closed.

SUPERVISED PREMISES.—68 inspections of 31 registered and 16 non-registered cowkeepers' and dairymen's premises. 10 inspections of slaughterhouses, 43 of workshops, and 7 of bakehouses.

SCHOOLS.—6 Schools inspected. 2 disinfected. 6 Schools were closed during the year on account of the prevalence of infectious disease.

BYE-LAWS.—Under building bye-laws, 6 plans were approved.

NUISANCES.—174 nuisances were abated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Every infected house visited, disinfectants supplied and complete instructions given as to isolation of patients and prevention of spread of the disease. “Many of the cases occurred in cottages containing only 2 bedrooms, thus making complete isolation almost impossible, besides entailing much hardship on the tenant.” One prosecution for failure to notify resulted in a conviction.

RURAL DISTRICT COUNCIL.

LODDON AND CLAYERING.

Medical Officer of Health, E. T. PRIOR, M.R.C.S.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	59,116	
Population	1901 Census	.. ..	12,393	
Population	1908 Estimated	.. ..	12,033	
Deaths registered in the District	.. ..	157		
Corrections—Additions	.. ..	0		
	Deductions	.. ..	0	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	.. ..	13·03		13·69
Zymotic „	.. ..	·06		
Infantile Mortality	.. ..	63·76		92·18
Birth Rate	.. ..	24·93		23·71
Cases of Infectious Diseases per 1000 population		1·03		

HOUSE ACCOMMODATION.—Houses are fairly habitable. Two have been pulled down. The house-to-house inspection has been continued.

WATER SUPPLY.—Two new wells sunk, one well closed, and one cleaned out.

SUPERVISED PREMISES.—The dairies and cowsheds have been periodically inspected. Several improvements have been readily carried out. Two bakehouses and one workshop cleaned on notice.

SCHOOLS.—Nine Schools closed during the year for infectious disease. “ The Schools in the district are generally in a healthy situation. The ventilation, lighting, warming, and general equipment are satisfactory.”

NUISANCES.—The district has been periodically and systematically inspected. In a Supplementary Report the M.O.H. gives details of the work done and improvements effected. Prosecutions 7, 2 for insanitary privies, 1 untrapped drain, 2 disobeying Magistrates’ Order, 1 exposing a person suffering from infectious disease.”

METHODS OF DEALING WITH INFECTIOUS DISEASES.—There is no public provision for isolation.

RURAL DISTRICT COUNCIL.

LYNN (WEST).

Medical Officer of Health, WM. WEBSTER, M.R.C.S.

The Report is in Manuscript.

Area in Acres	1901 Census (exclusive of inland water)	..	2,451	
Population	1901 Census	.. ..	595	
Population	1908 Estimated	.. ..	595	
Deaths registered in the District	.. ..	13		
Corrections—Additions	.. ..	0		
	Deductions	.. ..	0	

				1908.	10 years' mean. 1898—1907.
Nett Death Rate	..	..	..	21·84	17·77
Zymotic „	..	..	..	10·08	
Infantile Mortality	..	..	..	533·33	145·77
Birth Rate ..	..	..	..	25·21	38·43
Cases of Infectious Diseases per 1000 population				0	

SEWERAGE AND DRAINAGE.—The sewage flowing into the drain adjacent to the School is objectionable.

HOUSE REFUSE.—A scavenger was appointed to remove refuse fortnightly.

WATER SUPPLY.—Great scarcity during the whole year. Negotiations with King's Lynn have fallen through. A conference of representatives of affected villages decided to approach the Wisbech Water Company.

SUPERVISED PREMISES.—The dairies and cowsheds have been inspected and are generally satisfactory.

NUISANCES.—16 out of 19 nuisances have been abated. Systematic inspection is made by the M.O.H. in company with the Inspector. Nuisances from inattention to cleanliness in connection with pigs a constant source of complaint.

RURAL DISTRICT COUNCIL.

FREEBRIDGE LYNN.

Medical Officer of Health, C. B. PLOWRIGHT, M.D.

The Report is Typewritten.

Area in Acres	1901 Census (exclusive of inland water)			..	69,299
Population	1901 Census			.. ..	11,847
Population	1908 Estimated			.. ..	11,847
Deaths registered in the District				.. ..	176
Corrections—Additions ..				.. ..	13
Deductions				.. ..	0
					10 years' mean.
					1908. 1898—1907.
Nett Death Rate				15·95	13·87
Zymotic „				1·26	
Infantile Mortality				106·3	102·36
Birth Rate				21·44	23·72
Cases of Infectious Diseases per 1000 population				2·36	

DISTRICT contains 33 parishes in the West of Norfolk. It is bounded on the West by the Wash and the Great Ouse; on the South by the Nar. North Lynn is wholly and parts of Wolferton, North Wootton, South Wootton, and Setchey are partly on the great alluvial fenland plain. The other portions of these four parishes are on the green sand. The Eastern part of the District is an undulating plateau, the maximum altitude not exceeding 200 feet. The geological formation varies, comprising boulder clay, river gravel, glacial gravel, green sand, and upper chalk. The largest streams are the Hillington River, the Gaywood River, and the Nar.

HOUSE ACCOMMODATION.—House-to-house inspection of Pott Row was made with the Inspector, and recommendations made to the Council.

EXCREMENT DISPOSAL.—Pit privies at Pott Row were converted into pail or earth closets.

WATER SUPPLY.—On the Eastern side mostly deep wells in the chalk. On the Western side shallow wells in the alluvium. In the central parts the shallow wells in the waterlogged green sand are liable to surface pollution. In 1908 the rainfall measured 28 $\frac{3}{4}$ inches.

SUPERVISED PREMISES.—Slaughterhouses, bakehouses, dairies and milk-shops, cowsheds, and workshops regularly inspected.

SCHOOLS.—Systematic inspection of the Elementary Schools was carried out and a detailed report made by the Inspector of Nuisances, and Dr. Plowright summarises the results of inspection in his Annual Report.

NUISANCES.—A prosecution was instituted in connection with a case of overcrowding, but withdrawn on abatement and payment of costs. 32 complaints received; 1,004 nuisances abated, 39 after statutory notice.

METHODS OF DEALING WITH INFECTIOUS DISEASES.— Notification leads to exclusion of infected child and other members of family from School. Visit to the infected house. Disinfection after recovery. The question of a steam disinfecter was considered by a Sub-Committee and adjourned.

RURAL DISTRICT COUNCIL.

MARSHLAND.

Medical Officer of Health, J. L. FORREST, M.B.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	51,969	
Population	1901 Census	.. ..	11,352	
Population	1908 Estimated	.. ..	11,245	
Deaths registered in the District	.. ..	308		
Corrections—Additions	.. ..	0		
Deductions	.. ..	0		
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	.. ..	15.5	26.2	
Zymotic „	.. ..	1.06		
Infantile Mortality	.. ..	168.80	124.00	
Birth Rate	.. ..	27.4	26.2	
Cases of Infectious Diseases per 1000 population		6.43		

DISTRICT.—Contains 12 parishes in 4 sub-districts. Flat. The soil is peat and silt on sand and gravel, which in turn rests on boulder clay.

CHIEF OCCUPATION OF INHABITANTS.—Farming—including fruit and flower horticulture.

HOUSE ACCOMMODATION.—A considerable number of new houses since 1901; 36 in 1908. So that real population is probably in excess of the estimate. There is a considerable demand for labourers' cottages in the district. No case of overcrowding was reported.

SEWERAGE AND DRAINAGE.—There is no system of sewage disposal, the houses being drained to cesspools. The excrement disposal is by means of deep covered privies, which are cleaned out very infrequently, and are often in an objectionable condition. Earth or pail closets should be substituted for the privies. There is no public scavenging.

WATER SUPPLY.—About one-half of the district derives its water supply from the Wisbech mains, the water of which is of good quality and supplied on the constant system. The parishes of Terrington St. Clement, Clenchwarton, Tilney All Saints, Walpole St. Andrew, and portions of Walpole St. Peter and Tilney St. Lawrence, are dependent on water collected from the roofs in water-tight underground cisterns, and on shallow wells. The

cisterns are in most cases built so that the tops are level with the earth, and are provided with loose covers. The water is obtained by removing the cover and dipping with a (more or less clean) bucket. The water is thus liable to contamination from surface water and dirty utensils. Pumps ought to be provided at a distance from the cisterns, the walls raised above ground, and fixed covers provided. The wells are all liable to contamination from sewage matter, and out of a considerable number examined, evidence was obtained of such pollution in a great majority. When the above sources fail, recourse is had to open drains and ponds. In a dry season even these sources of supply fail, and many of the people have not sufficient water for ordinary domestic purposes. It seems obvious, therefore, that some arrangement must, sooner or later, be made for providing this part of the district with an abundant supply of good water, which is essential to health.

SUPERVISED PREMISES.—The dairies and cowsheds, slaughterhouses, and knackers' yards in the district have been inspected and found in a satisfactory condition. The only workshops and workplaces are the village bakehouses, carpenters' and blacksmiths' shops, all of which have been visited and found in a satisfactory condition. No home work is given out in the district. The fruitpickers' quarters were all inspected during the season and found satisfactory. Accommodation was provided for over 500 pickers, compared with 200 last year.

SCHOOLS.—The Medical Officer of Health visited and reports on three Schools, suggesting the substitution of earth closets for privy vaults, and notes one or two other points needing attention.

BYE-LAWS.—The Local Government Board Model Bye-laws for regulating fruit-pickers' quarters were adopted during the year.

NUISANCES.—The district has been regularly inspected by the Inspectors and the M.O.H.; and where a nuisance was reported or infectious disease notified, special visits were made. As a result of the visits, many nuisances were abated without formal notice being served.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Isolation: No accommodation exists for the isolation of infectious cases. Disinfection: Where cases of infectious disease were notified, the houses were visited by the Inspectors and disinfectants supplied gratis. Instructions were also given to prevent the spread of the disease. After recovery, or death, the houses were disinfected under the directions of the Inspectors.

RURAL DISTRICT COUNCIL.

MITFORD AND LAUNDITCH.

Medical Officer of Health, D. T. BELDING, M.R.C.S.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	101,598	
Population	1901 Census	..	18,434	
Population	1908 Estimated	..	18,400	
Deaths registered in the District	..	..	252	
Corrections—Additions	..	..	0	
	Deductions	..	12	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	..	..	13.04	
Zymotic „	..	..	.65	
Infantile Mortality	..	..	92.26	112.27
Birth Rate	..	..	21.79	22.64
Cases of Infectious Diseases per 1000 population			1.57	

DISTRICT.—Generally a clay subsoil, with patches of gravel.

CHIEF OCCUPATION OF INHABITANTS.—Agricultural.

HOUSE ACCOMMODATION.—Sufficient, and generally in good repair; “for as the population is decreasing, there is in many villages a tendency to leave the worst cottages unoccupied.” With the exception of Litcham, most houses have ample garden and air space. New houses are rarely erected. No bye-laws.

SEWERAGE AND DRAINAGE.—“No proper system to any of the villages.” Litcham still unsatisfactory. By the advice of the Local Government Board the expert advice of a Sanitary Engineer has been obtained and a scheme presented, the cost of which the M.O.H. thinks is practically prohibitive. The scheme has not been adopted by the Council, and matters remain *in statu quo*.

POLLUTION OF RIVERS AND STREAMS.—Less than it was, with the exception of the Workhouse sewage.

EXCREMENT DISPOSAL.—The pail system is gradually replacing the old privy.

HOUSE REFUSE.—This, with pail closet contents, generally emptied on the gardens.

WATER SUPPLY.—Shallow wells. One has been closed, and others cleaned out and insanitary surroundings altered.

SUPERVISED PREMISES.—10 slaughterhouses, 37 dairies and cowsheds, 15 bake-houses. 2 cowsheds classified as bad and 18 as only moderate.

SCHOOLS.—“Surroundings generally very good, and in no case bad.” 39 Schools in the district, all of which are reported on as to surroundings, sanitary offices, and water supply. 4 are stated to have insufficient privy accommodation. 18 Schools are reported as having none or insufficient water supply.

NUISANCES.—300 abated in the year, 1 filthy house cleansed.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—No hospital isolation. Steam formalin disinfection at end of case, and disinfectants supplied during illness. Bacteriological guidance adopted for diagnosis and for convalescence in Diphtheria. The Council also provides antitoxin. After cases of Typhoid the bedding is destroyed and owners compensated.

RURAL DISTRICT COUNCIL.

ST. FAITH'S.

Medical Officer of Health, S. H. LONG, M.D.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	48,304	
Population	1901 Census	..	12,559	
Population	1908 Estimated	..	11,075	
Deaths registered in the District	..	..	181	
Corrections—Additions	..	..	0	
	Deductions	..	47	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	..	..	12·1	13·0
Zymotic	..	..	1·08	
Infantile Mortality	..	..	105·02	121·5
Birth Rate	..	..	19·77	24·6
Cases of Infectious Diseases per 1000 population			4·24	

DISTRICT.—Parts of the parishes of Sprowston and Catton were transferred to the City of Norwich in November, 1907, with a population estimated at 2,126.

CHIEF OCCUPATION OF INHABITANTS.—Agricultural. “ Were it not for this out-of-door life the evil effects of overcrowding and badly-ventilated houses would undoubtedly be more marked.”

HOUSE ACCOMMODATION.—In one or two villages inadequate, and cases of overcrowding periodically found, which are difficult to deal with owing to lack of further accommodation. Most of the cottages have a garden, and are kept neat and tidy.

EXCREMENT AND HOUSE REFUSE DISPOSAL.—The pail system is gradually replacing the old privy bin. Dr. Long says—“ With regard to the disposal of slop water, urine, and other liquid refuse, it is, I think, always advisable to manage without any system of underground drains when any other method of disposal is found to be practicable.”

WATER SUPPLY.—Mostly from surface wells. Seven samples were analysed. The Medical Officer of Health issued a special report on the highly-polluted water supply of Lenwade in November, which he reproduces in February, 1909, in his Annual Report, “ as no action has so far been taken.”

SUPERVISED PREMISES.—Most of the dairies and cowsheds “ are now in a far more cleanly condition than they were a year or so ago. There is still much to be done.”

SCHOOLS.—Sanitary details are given concerning the Schools at Drayton, Crostwick, Felthorpe, Ringland, and Wroxham.

METEOROLOGICAL NOTES.—Interesting summaries by Mr. A. W. Preston, F.R.Met. Soc., and Mr. T. Cozens-Hardy are incorporated in the Report.

NUISANCES.—The Report of the Inspector of Nuisances is embodied, and shows that 65 notices were served and 458 nuisances abated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—No isolation hospital is available, and Dr. Long illustrates how Diphtheria spread from one member to another of a family and to a family next door. During the year the Council made a regulation that no child should be permitted to return to School until its throat has been proved by bacteriological examination to be free of the Diphtheria bacillus. The Council to bear the expense of such examination when necessary. Antitoxin is used both as a prophylactic and as a curative agent. Twenty houses and one School were disinfected.

RURAL DISTRICT COUNCIL.

SMALLBURGH.

Medical Officer of Health, B. D. Z. WRIGHT, M.R.C.S.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	57,632	
Population	1901 Census	.. ..	13,323	
Population	1908 Estimated	.. ..	13,578	
Deaths registered in the District	.. ..	177		
Corrections—Additions	.. ..	0		
Deductions	.. ..	0		
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	.. ..	12·29	14·5	
Zymotic „	.. ..	·29		
Infantile Mortality	.. ..	79·03	114·9	
Birth Rate	.. ..	23·00	38·00	
Cases of Infectious Diseases per 1000 population		3·75		

DISTRICT.—The sub-districts of Stalham and Ludham contain many acres of water not included in above estimate. The District is flat.

CHIEF OCCUPATION OF INHABITANTS.—Agricultural.

HOUSE ACCOMMODATION.—In many villages inadequate. Many of the houses not suitable for the families residing therein; others would be condemned as overcrowded could other and larger houses be obtained.

SEWERAGE AND DRAINAGE.—Practically non-existent except in Stalham, where the main drain is composed of pipes of various diameters.

POLLUTION OF RIVERS AND STREAMS.—At Horning house drains find their way eventually into the river.

EXCREMENT DISPOSAL.—The pail system with a separate closet for each cottage has been adopted where possible. Old-fashioned privies shared by groups of cottages are still to be found. “They are not emptied as frequently as they should be, since what is everyone’s duty is no one’s duty.”

HOUSE REFUSE.—Disposed of by burying in the garden, or on the “muckup.”

WATER SUPPLY.—Entirely by wells, many of them very fleet. Eleven samples of water were submitted for chemical and one sample for bacteriological analysis.

SUPERVISED PREMISES.—Slaughterhouses, dairies, cowsheds, and bakehouses have been inspected. “Cowsheds and dairies are not always all that could be desired.” Slaughterhouses are cleanly kept, but it would be better if fewer carcasses of animals “killed to save their lives” were taken in to be dressed.

SCHOOLS.—“On the whole satisfactory as regards sanitary conditions and greatly improved of late years.”

NUISANCES.—The Inspector reports that he does not find the same amount of petty nuisances existing on cottage premises as formerly, but cottage occupiers will still build pigs’-houses too near their dwellings. At Sloley the drains to a new house were found with leaky joints, and the Inspector refers to the importance of having such drains thoroughly tested before the builder is allowed to cover them over.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—“A great step has been taken in effectually combating Diphtheria since the Sanitary Authority has sanctioned the bacteriological examination of the throats of those children who have had the disease for proof of freedom from infection before they can be re-admitted to School.” The Medical Officer again calls attention to the want of isolation accommodation “when it is impossible for satisfactory precautions to be taken in the patient’s home.” The Council hired a cottage to isolate some patients suffering from Diphtheria and Scarlet Fever at East Ruston.

RURAL DISTRICT COUNCIL.

SWAFFHAM.

Medical Officer of Health, E. F. ROSE, L.S.A.

The Report is Typewritten.

Area in Acres	1901 Census (exclusive of inland water)	..	73,650	
Population	1901 Census	.. ..	8,757	
Population	1908 Estimated	.. ..	7,644	
Deaths registered in the District	.. ..	103		
Corrections—Additions	.. ..	0		
Deductions	.. ..	0		
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	.. ..	13·4	13·2	
Zymotic „	.. ..	1·17		
Infantile mortality	.. ..	116·9	115·0	
Birth Rate	.. ..	22·0	22·3	
Cases of Infectious Diseases per 1000 population		7·45		

The Medical Officer of Health (Mr. Foster), who had been in poor health for some time, died in the course of the year, and Mr. E. F. Rose was not appointed in his place until December, 1908.

Consequently, it is not surprising that the District Report for 1908 contains very little sanitary information.

SUPERVISED PREMISES.—A register of cowsheds and dairies is being prepared. These, as well as slaughterhouses, bakehouses, and workshops, were visited in the course of the year by the Inspector.

NUISANCES.—From the Inspector's Report it appears that 88 nuisances were abated, 8 under statutory notice. 12 filthy houses were cleansed and 6 cases of overcrowding abated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—No provision for isolation with the exception of the Joint Hospital at Swaffham, which can only be used for Small-pox. The M.O.H. suggests the use of this building for the early notification of the first notified case of Diphtheria or Scarlet Fever, or the making use of a cottage in different parts (as suggested by the County M.O.H. in his last Annual Report). 37 rooms were disinfected in the course of the year.

RURAL DISTRICT COUNCIL.

THETFORD.

Medical Officer of Health, A. HARRIS, M.B.

The Report is in Manuscript.

Area in Acres	1901 Census (exclusive of inland water)	..	95,837	
Population	1901 Census	..	6,573	
*Population	1908 Estimated	..	9,950	
Deaths registered in the District	..	..	134	
Corrections—Additions	..	..	9	
	Deductions	..	0	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	..	..	14·3	13·2
Zymotic	..	..	·9	
Infantile Mortality	..	..	92·1	91·8
Birth Rate	..	..	22·9	22·2
Cases of Infectious Diseases per 1000 population			·8	

*The increase is due to the extension of the district by the addition of the several Parishes of the late Giltcross Union.

DISTRICT.—Consists of small villages, hamlets, and scattered cottages.

CHIEF OCCUPATION OF INHABITANTS.—Agricultural.

HOUSE ACCOMMODATION.—Fairly good, but bedroom accommodation often insufficient.

SEWERAGE AND DRAINAGE.—No system in the District.

EXCREMENT DISPOSAL.—Privy system nearly universal. A more systematic method of emptying and cleansing the privies is urgently needed in all of the larger villages.

HOUSE REFUSE.—Accumulations frequently met with in vicinity of cottages. “ A systematic method of removal ought to be instituted in all of the larger villages.”

WATER SUPPLY.—By wells. No public supply. After analysis of water two wells were condemned and one cleaned out.

SUPERVISED PREMISES.—Many of the cowsheds are below the standard required as to cleanliness and sanitation. Slaughterhouses are in good condition, clean, and well kept. 61 inspections of 33 workshops and 3 nuisances found abated.

SCHOOLS.—All the Elementary Schools in the district have been inspected, and Dr. Harris presents in tabular form the Sanitary particulars of each.

BYE-LAWS.—No building bye-laws.

NUISANCES.—230 nuisances were dealt with by the Sanitary Inspector, of which 190 were abated. The Medical Officer of Health pays a tribute to the manner in which the Sanitary Inspector has discharged his duties, and trusts the Council will give him their cordial support and encourage him to continue to effect good work.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—There is no Isolation Hospital. Upon receipt of notification, the usual visit and enquiries made, directions given, and disinfectants supplied. Where necessary, children excluded from School and notices of exclusion given to Head Teachers as to contacts. Upon the termination of the case, when so notified by the doctor in attendance, the premises are disinfected by means of formalin (both in the form of vapour and of spray), the walls are stripped and re-papered, and the rooms thoroughly cleaned. No steam disinfection being provided, all articles which cannot be efficiently disinfected otherwise are burnt, the owners being fully recompensed. With regard to Diphtheria, the Medical Officer advises the provision in necessitous cases of a gratuitous supply of antitoxin, and the non-readmittance to School of infected children unless certified to be bacteriologically free of Diphtheria germs.

RURAL DISTRICT COUNCIL.

WALSINGHAM.

Medical Officer of Health, W. H. FISHER, M.B.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	73,837	
Population	1901 Census	..	17,117	
Population	1908 Estimated	..	17,500	
Deaths registered in the District	..	..	208	
Corrections—Additions	..	..	0	
Deductions	..	..	0	
				10 years' mean.
				1908. 1898—1907.
Nett Death Rate	..	..	11·8	13·5
Zymotic „	..	..	·84	
Infantile Mortality	..	..	87·9	105·0
Birth Rate	..	..	20·6	24·3
Cases of Infectious Diseases per 1000 population			4·57	
Pulmonary Phthisis Death Rate	..	..	0·9	compared with 0·8 in '07
Cancer Death Rate	..	..	0·9	„ „ 1·2 in '07

OCCUPATION OF INHABITANTS.—Chiefly agricultural. There are 4 works which employ over 40 persons and come under the Factory Act (1901).

HOUSE ACCOMMODATION.—There is insufficiency of cottage accommodation for labouring men with large families.

SEWERAGE AND DRAINAGE.—250 yards of new sewers have been laid, and the main sewers have been examined and repaired where necessary. A Special Report was made at the request of the Local Government Board on Fakenham, and a scheme proposed by Mr. E. J. Silcock is now under consideration for the sewerage of the town (including land treatment) at an estimated cost of £3000. A new gravel filter bed has replaced an old clinker bed at the Melton Sewage Works.

POLLUTION OF RIVERS AND STREAMS.—The sewage of Fakenham is discharged in its crude state into the River Wensum. Mr. Silcock's scheme of sewage disposal would completely stop such pollution.

EXCREMENT DISPOSAL.—The pail system ; scavenged in three parishes under the supervision of the Sanitary Inspector. “ I would strongly recommend the appointment of village scavengers for the collection of pail contents and house refuse in the villages of Blakeney, Stiffkey, Melton Constable, and the Raynham District.” In 15 cases pails replaced privies, owing to the proximity of the latter to a dwelling or a water supply.

WATER SUPPLY.—Exclusively from surface wells of varying depths. 25 samples analysed, 1 condemned. There is a prospect of a public supply for Fakenham.

SUPERVISED PREMISES.—Cowsheds and dairies have all been visited and reported upon. Ventilation and drainage have been improved in 11 cowsheds. Slaughterhouses satisfactory. 260 inspections and 20 written notices under the Factories and Workshops Act of 1901.

SCHOOLS.—Two Schools were closed on account of infectious disease (Diphtheria). The drainage and sanitary conveniences at East Barsham and Shereford Schools have been re-modelled.

BYE-LAWS.—Building bye-laws (for new buildings) came into force in 1908. Bye-laws in connection with slaughterhouses have been adopted in 17 parishes (out of 54).

NUISANCES.—340 nuisances abated in the course of the year. Systematic inspection has been carried out during the year.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—On notification, disinfectants are supplied and the locality visited the next day. Final disinfection by formalin (in gaseous or in spray form). Clothing and bedding destroyed in three cases and compensation allowed. In known cases of Tuberculosis instructions are given as to disinfection of sputum and the need of a separate bedroom. After death, disinfection of the room. A small hospital at Thursford, for two patients, is reserved solely for use in case of Small-pox.

RURAL DISTRICT COUNCIL.

WAYLAND.

Medical Officer of Health, E. F. ROSE, L.S.A.

The Report is Typewritten.

Area in Acres	1901 Census (exclusive of inland water)	..	65,925	
Population	1901 Census	..	9,888	
Population	1908 Estimated	..	13,792	
Deaths registered in the District	..	..	193	
Corrections—Additions	..	..	0	
Deductions	..	..	3	
				10 years' mean.
				1908. 1898—1907.
Nett Death Rate	..	..	13·7	14·3
Zymotic	..	..	·58	
Infantile Mortality	..	..	101·9	116·0
Birth Rate	..	..	22·0	21·8
Cases of Infectious Diseases per 1000 population			1·52	

Dr. Foster, Medical Officer of Health, died after a protracted illness, and was succeeded in September by Dr. Rose, who presents the Report.

HOUSE ACCOMMODATION.—A considerable number of cottages with insufficient bedroom accommodation, and otherwise in a condition hardly fit for human habitation. Five houses were certified as unfit. Eleven new houses have been built.

SEWERAGE AND DRAINAGE.—Primitive. Many nuisances through fouled ditches, drains, and overflowing cesspools. At Watton, a ventilated main sewer conveys sewage to septic tanks and filter beds. The sewer has been extended during the year. At

Attleborough, experiments are being made in connection with one of the three sewers in the way of filter bed and septic tanks.

EXCREMENT DISPOSAL.—Progress is being made in the conversion of privy vaults to earth or pail closets. At Attleborough, dry earth closets are in use; but a few water closets are connected with the main sewers.

WATER SUPPLY.—Entirely from shallow wells.

SUPERVISED PREMISES.—65 inspections under the Factories and Workshops Act, 1901. Dairies, cowsheds, milkshops, and bakehouses visited. Several of the latter were found dirty, and required notices for cleansing.

NUISANCES.—The Inspector's Report shows a considerable number of nuisances abated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—No provision for isolation. Disinfection at end of notified cases.

URBAN DISTRICT COUNCIL.

CROMER.

Medical Officer of Health, E. EDDOWES LEGAT, M.B.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	1,007	
Population	1901 Census	.. ..	3,781	
Population	1908 Estimated	.. ..	4,105	
Deaths registered in the District	.. ..	..	41	
Corrections—Additions	.. ..	..	0	
	Deductions	.. ..	6	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	.. ..	8·5	9·8	
Zymotic „	.. ..	·26		
Infantile Mortality	.. ..	218·7	104·4	
Birth Rate	.. ..	15·5	22·1	
Cases of Infectious Diseases per 1000 population		2·9		

DISTRICT.—The aspect is Northerly, on cliffs from 50 to 60 feet above sea level. The town is surrounded by small well-wooded hills. The climate is bracing and dry. The prevailing winds are Southerly.

CHIEF OCCUPATION OF INHABITANTS.—Fishing; letting apartments and catering for visitors.

HOUSE ACCOMMODATION.—A deficiency of small cottages, with a tendency to overcrowding. Some of the older properties leave much to be desired—for instance, back-to-back houses with insufficiency of air space. Plans for new houses are strictly supervised.

SEWERAGE AND DRAINAGE.—Sewers and house drains provided with high ventilating shafts. The sewage is received into settling tanks and discharged into the sea at high tide. Any collecting sludge is pumped into the outfall pipe from time to time.

EXCREMENT DISPOSAL.—For the most part by water carriage.

HOUSE REFUSE.—Collected in covered vans—three times a-week in Summer, twice a-week in Winter—and carted two and a-half miles into the country. The provision of a destructor was discussed, but no suitable site could be obtained.

WATER SUPPLY.—A constant supply derived from a deep well in the chalk four miles inland, pumped to a reservoir on the top of a hill two and a-half miles from the town. The water is pure, but hard.

SUPERVISED PREMISES.—Great attention has been given to dairies and cowsheds in the District, which are now all reported to be in good order. There are no slaughterhouses in the District.

SCHOOLS.—Well situated, open. In most respects they fully meet modern sanitary requirements; but the Medical Officer of Health suggests partitions between the pegs in the cloak rooms, and comments on the absence of any arrangement for drying the children's boots or clothes.

NUISANCES.—Systematic inspection was made by the Medical Officer in company with the Sanitary Inspector, as well as by each Officer individually, and many nuisances were discovered and abated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Most of the Scarlet Fever cases are removed as early as possible after notification to the Isolation Hospital. The infected rooms are then subjected to formalin under pressure. Typhoid cases (which are rare) are generally treated in the Cottage Hospital. Diphtheria cases so far have been isolated at home, but Dr. Legat hopes in future to have them removed to the Isolation Hospital where possible; but the hospital provision is apparently insufficient for treating more than one kind of disease at a time, consisting of two wards containing eight beds. There is a separate administrative block and laundry. A Thresh disinfecting machine is erected at the hospital.

URBAN DISTRICT COUNCIL.

DEREHAM (EAST).

Medical Officer of Health, D. T. BELDING, M.R.C.S.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	5,299
Population	1901 Census	.. ..	5,545
Population	1908 Estimated	.. ..	5,545
Deaths registered in the District	.. ..	80	
Corrections—Additions	.. ..	12	
Deductions	.. ..	0	
		6 years' mean.	
		1908.	1902—1907.
Nett Death Rate	.. ..	16.66	13.73
Zymotic „	.. ..	1.26	
Infantile Mortality	.. ..	100.84	139
Birth Rate	.. ..	21.54	23.22
Cases of Infectious Diseases per 1000 population		5.21	

DISTRICT.—Comprises East Dereham and the Hamlets of Toftwood, Dumpling Green, Etling Green, Northall Green, and Dillington. The main portion is built in clay and brick earth. To the North on gravel. To the West on alluvial deposit on the banks of a small tributary of the river Wensum.

CHIEF OCCUPATION OF INHABITANTS.—Mainly agricultural. Maltsters and engineers.

HOUSE ACCOMMODATION.—The house accommodation is making steady and satisfactory progress—new houses being built every year, of a much improved type. There are, however, houses in certain districts that we hope in a few years to see removed as others are built to take their places. The majority have a sufficiency of open space around, but, as in all towns before building bye-laws were adopted, in a few cases there is not enough room allowed for the houses on a given area. New houses are all built under the direct supervision of the Town Surveyor. No action has been necessary under the Housing of the Working Classes Act.

SEWERAGE AND DRAINAGE.—The sewage works (as outlined in last year's Report) are now completed, and we have two sets of slate contact beds, one discharging on to continuously-acting circular filter with distributor, while the other set go to intermittently-acting filters of fine gravel. These will take much more than our normal flow, and we hope to have valuable information by the end of the year as to the relative merits of the two systems.

POLLUTION OF RIVERS.—The only stream we have to consider in our district is the one into which our sewage effluent is discharged; and during the past year this has necessarily been somewhat polluted, for during the reconstruction of our sewage works the old sewage farm had to be used, and, as is well known, that proved a failure. However, we expect to show much improved results shortly.

EXCREMENT AND HOUSE REFUSE DISPOSAL.—In the town area all dustbins and privies are emptied by the Council's scavengers. Their work would be much facilitated if privies were abolished and dust tins universally substituted for bins. Some years ago the Council provided tins for many houses and districts, and I should much like to see more done in this direction, for I am sure the saving in labour to the Council would repay the cost, to say nothing of the increased cleanliness of the process.

WATER SUPPLY.—The town is supplied by water from the waterworks (owned by the town). The water is of exceptional purity, being derived from the chalk, and undergoing a softening process before supplying the town. The M.O.H. gives the figures of a sample analysis and describes the construction of the well, 250 feet deep.

SUPERVISED PREMISES.—Cowsheds, slaughterhouses, and bake-offices are all reported as having been inspected and found satisfactory.

SCHOOLS.—The Schools in the district are in a satisfactory condition and have not necessitated any interference by the Sanitary Authority for any defects during the past year.

NUISANCES.—In the Inspector's Report it is stated that 5 complaints were received and 11 nuisances detected without complaint, all of which were abated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Each case enquired into and disinfectants supplied. After recovery, rooms disinfected with formalin steam. The portable Isolation Hospital has not been used during the year. Tuberculosis is still one of the problems to be dealt with.

URBAN DISTRICT COUNCIL.

DOWNHAM MARKET.

Medical Officer of Health, E. G. WALES, M.B.

The Report is in Print.

Area in Acres	1901 Census (exclusive of inland water)	..	1,002	
Population	1901 Census	..	2,472	
Population	1908 Estimated	..	2,500	
Deaths registered in the District	..	..	7	
Corrections—Additions	..	..	0	
	Deductions	..	10	
				10 years' mean.
		1908.		1898—1907.
Nett Death Rate	..	14·8	15·1	
Zymotic	..	0·4		
Infantile Mortality	..	120·0	130·1	
Birth Rate	..	23·2	21·6	
Cases of Infectious Diseases per 1000 population		2·4		
Assessable Value, £8,675. 1d. Rate produces £35.				

DISTRICT.—Situated in the Eastern border of the Great Fen Level; the land slopes towards the Western boundary formed by the St. John's Eau river, an artificial

drain constructed about 1650 for the purpose of assisting to carry off the upland flood waters into the Ouse, into which it falls through a sluice at Stow Bridge; this cut was originally 120 feet wide and 10 feet deep, but is now much smaller through silting up. This, therefore, has formed the natural drain of the District—all the drainage and storm water finding its way by natural courses (open ditches) into this river. The subsoils are chiefly sandstone in the upper portions of the District and clay in the lower.

HOUSE ACCOMMODATION.—The population varies as little probably as in any part of the country, and may safely be regarded as almost stationary. I see no reason to alter my estimate of 2,500 for the last year or two. There are 647 inhabited houses in the District. Only three cases of overcrowding have come to the notice of the Sanitary Inspector during the year. The accommodation for the working classes may be considered adequate, much improvement in house property having been effected by private owners of late years. No action has been taken or needed under the Housing of the Working Classes Act.

POLLUTION OF RIVERS AND STREAMS.—The St. John's Eau river, mentioned above, is at present polluted by the drainage of the town. [The next paragraph deals with the proposed remedy, which has been before the Local Government Board.]

SEWERAGE AND DRAINAGE.—“The plans for an efficient drainage system with bacterial purification of sewerage are now laid before the Local Government Board and awaiting approval. The scheme of Messrs. Elliott & Brown seems to meet local requirements, and likely to be more economical eventually than many plans which were suggested in the earlier deliberations; and I may perhaps be allowed to say that the County Medical Officer of Health (provisionally) approved this scheme and entirely concurred in the necessity for some such work being undertaken.” [The scheme has not been approved by the Local Government Board, presumably on account of local opposition to the site of the sewage disposal works, and some engineering difficulties.]

EXCREMENT DISPOSAL.—The Sanitary Inspector has prepared a list of all closets in the District, whether w.c., vault, or earth closet—this necessitated a house-to-house visitation. There are 520 closets connected with the sewers, and 130 vaults, which will gradually be superseded by more modern arrangements.

HOUSE REFUSE.—The work of the public scavenger with dust-cart three mornings a week has been of benefit, especially among the smaller houses, in preventing noxious accumulations. The chief danger, and a very real one, of decomposing matter lying near dwellings is caused by the carrying of putrefactive germs by flies after the latter have been on ashpits and foul matter. Hence the importance of keeping milk and food covered during the “fly” season, and discouraging this pestiferous insect by removing his natural haunt and feeding-ground, viz., refuse matter, as far as possible from the dwelling.

WATER SUPPLY.—The supply from the four public wells has been of satisfactory quality, in addition to which the greater portion of the District has now the option of using the Marham water. It is to be hoped that a large amount of cottage property will be connected with the supply.

SUPERVISED PREMISES.—There are 5 dairies and cowsheds in the District, which have been periodically inspected. In one case inefficiently-drained yards were promptly remedied by the landlord on his attention being called. Periodical inspections have been made of 29 factories and workshops which come under this Act; these give employment to 64 men, 56 women, and 38 young persons; 9 bake-offices (none underground), 10 slaughterhouses (7 licensed, 4 registered), and the homes of 14 outworkers have also been visited. No action has been required and the terms of the Act fulfilled.

SCHOOLS.—Reported on.

BYE-LAWS.—The dairy and cowsheds bye-laws adopted in 1899, framed upon the model bye-laws drafted by the Local Government Board, deal adequately with cleansing, ventilation, drainage, and lighting, and have been observed.

NUISANCES.—I would suggest that your Council take steps to have the pavements and gutters of the streets well flushed at frequent periods from the hydrants; they are often in a very dirty state, especially after market days and “fair” days; expectoration is not unknown, and its removal is important in view of the prevention of Phthisis and Tuberculosis, to which so much public attention is now being devoted.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—The Sanitary Inspector superintends disinfection with formaldehyde lamp and spray. “As regards Diphtheria, I trust that your Highways Committee, acting as Sanitary Committee, will discourage, as recommended by the County Medical Officer of Health, the attendance at School of any child who has been affected, or has been in contact, until certified that a negative bacteriological examination of the throat-excretions has been made ; this would entail in some cases a grant of a few shillings for each such examination. Should an epidemic threaten, I shall ask your Highways Committee for such powers as may seem necessary. There is no hospital for infectious diseases in the District or available in the neighbourhood. A suitable cottage or small house, provided by the combined Urban and Rural Districts, kept in charge of a handy woman and available at short notice, would be a useful substitute for an isolation hospital for first cases when such could not be properly isolated at home, and anything like efficient isolation is absolutely impossible in the small dwellings of the poor.” Notification of Pulmonary Phthisis among technical “paupers” now comes into force. In the last case of Pulmonary Phthisis I took steps to have fumigation carried out. “I should like to call your attention to the grave public danger that exists in the prevalent neglect of vaccination throughout the country. It seems that the majority of parents now claim exemption; this can have only one result in course of time, viz., outbreaks of Small Pox epidemics.”

URBAN DISTRICT COUNCIL.

DISS.

Medical Officer of Health, H. M. SPEIRS, M.D.

The Report is in Print. (Last year in Manuscript.)

Area in Acres	1901 Census (exclusive of inland water)	..	3,625	
Population	1901 Census	.. ..	3,800	
Population	1908 Estimated	.. ..	3,800	
Deaths registered in the District	..	..	42	
Corrections—Additions	.. ..	..	0	
	Deductions	.. ..	1	
				4 years' mean.
		1908.	1904—1907.	
Nett Death Rate	.. ..	10·7	11·3	
Zymotic	„ ..	0·78		
Infantile Mortality	.. ..	36·5	111·9	
Birth Rate	.. ..	21·5	17·5	
Cases of notified Infectious Diseases per 1000 population	3·1		9·3	

DISTRICT.—Bounded on the South by the river Waveney and Suffolk. The town stands on ground sloping up from the river to a ridge running East and West. The Mere forms the lowest part of the town ; until 1878, all sewage drained to it. The Mere is kept at a constant level by five springs in the centre ; it overflows to the river. Geological strata—(1) boulder clay, (2) gravel and sand, (3) chalk.

CHIEF OCCUPATION OF INHABITANTS.—Ordinary trade for small town. Two mat and brush factories employ some hundreds. There are also a stay factory, an iron foundry, and one or two large maltings.

HOUSE ACCOMMODATION.—621 cottages renting below £8 per annum. 4 new cottages in course of construction. All the houses have gardens or yards. Plans of all new buildings submitted to the Council. No overcrowding.

SEWERAGE AND DRAINAGE.—All the town excepting the East end is sewered. Sewage treated at a farm of 5 acres of 16 beds, lifted by duplicate pumps. The effluent was examined by the M.O.H. in July last and reported as satisfactory. Very few w.c.'s are connected with the sewers at present owing to lack of water.

EXCREMENT DISPOSAL.—Privies cleaned out by contract, but householder has to notify contractor and pay a small fee also. The nightsoil is removed to the country.

HOUSE REFUSE.—Similarly arranged for.

WATER SUPPLY.—Specially reported upon last year as from wells subject to pollution. The Council promptly acted on the hint and had schemes for a pure water supply before them. No details given in the Report.

SUPERVISED PREMISES.—39 workshops and 1 underground bakehouse on the register. 23 inspections of workshops made.

SCHOOLS.—Two public Elementary Schools. Sanitary arrangements not perfect in either.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Infected house visited. Schoolmaster informed. Isolation at home as far as possible. Disinfection after recovery.

SYSTEMATIC INSPECTION.—Not reported on.

URBAN DISTRICT COUNCIL.

HUNSTANTON (NEW).

Medical Officer of Health, B. G. SUMPTER, M.B.

The Report is in MS.

Area in Acres	1901 Census (exclusive of inland water)	..	487	
Population	1901 Census	.. ..	1,893	
Population	1903 Estimated	.. ..	1,893	
Deaths registered in the District	.. ..	28		
Corrections—Additions	.. ..	0		
	Deductions	.. ..	4	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	.. ..	12·6	8·6	
Zymotic „	.. ..	·52		
Infantile Mortality	.. ..	107·1	81·4	
Birth Rate	.. ..	14·7	13·6	
Cases of Infectious Diseases per 1000 population		53·87		

DISTRICT.—A seaside resort with a fluctuating summer population. Chalk, sand, and gravel.

CHIEF OCCUPATION OF INHABITANTS.—Lodging-house keepers, letting apartments for visitors during the season.

HOUSE ACCOMMODATION.—Scant accommodation for labouring classes. There is a real want of cottages at about £10 a-year rental.

SEWERAGE AND DRAINAGE.—Ventilation shafts are being fitted to the main sewers. A settling tank used for the sewage before it is discharged at sea. The sediment is carted on to land which is cultivated.

EXCREMENT AND HOUSE REFUSE DISPOSAL.—Scavenging by Council's own workmen. All refuse burnt at a destructor.

WATER SUPPLY.—Excellent.

SUPERVISED PREMISES.—17 visits paid to the 3 dairies and milkshops. 53 visits to the 3 bakehouses, 3 blacksmiths, 4 carpenters, 2 dressmakers, 1 whitesmith, and 1 plumber on the Register.

SCHOOLS.—All arrangements excellent at the Hunstanton School.

NUISANCES.—375 inspections, 184 re-inspections, 21 nuisances discovered and abated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—79 houses (including Schools) were disinfected. There were 4 cases of Diphtheria at a college, and several sore throats. Swabs from the latter were taken for bacteriological examination. The drains were tested and no defect found. No cases were sent to the Isolation Hospital at Redgate Hill. Infection of the pupils was traced to a servant. Measles is notifiable, but no details are given as to the measures taken in connection with 98 notifications, beyond the bare fact that 76 houses were disinfected.

URBAN DISTRICT COUNCIL.

SHERINGHAM.

Medical Officer of Health, W. J. E. SUMPTER, M.D., &c.
Deputy Medical Officer of Health, J. E. LINNELL, M.B., D.P.H.

The Report is Typewritten.

Area in Acres	1901 Census (exclusive of inland water)	..	2,207	
Population	1901 Census	..	2,359	
Population	1908 Estimated	..	3,000	
Deaths registered in the District	..	..	32	
Corrections—Additions	..	..	0	
	Deductions	..	0	
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	..	..	10.66	11.6
Zymotic	„	..	00.00	
Infantile Mortality	..	..	44.12	99.5
Birth Rate	..	..	22.66	
Cases of Infectious Diseases per 1000 population			8.00	

DISTRICT.—Compactly situated on North coast of Norfolk, bounded on the South by a low range of wooded hills.

CHIEF OCCUPATIONS OF INHABITANTS.—About 25 per cent. are fishermen. Of traders and lodging-house keepers there are about 60 per cent. ; while professional and independent folk number roughly 15 per cent.

HOUSE ACCOMMODATION.—On the whole satisfactory, excepting remnants of old fishing village, which lack thorough ventilation and have old conservancy privies. Bulk of houses erected within the last ten years. A scarcity, however, of cottages with three bedrooms for labouring classes.

SEWERAGE AND DRAINAGE.—For the most part modern water carriage system, but the Health Officers think the outfall sewer hardly of sufficient size for times of storm. Outfall at sea below low water mark of ordinary tides. Septic tank tried at one time but abandoned now.

EXCREMENT DISPOSAL, HOUSE REFUSE.—The contents of dust bins and privies are removed from houses twice a week by the District Council, and carted outside the Urban area. A refuse destructor is contemplated.

WATER SUPPLY.—Provided by a Gas and Water Company. Collecting ground, pumping station, and reservoirs in Sheringham Woods, half-a-mile South of the town. Sources of supply : Springs and a deep well. Analyses satisfactory.

SUPERVISED PREMISES.—Two cowsheds (not modern), milk shops, and bake-offices personally visited. There are no factories or workshops.

SCHOOLS.—The Council Schools finished in 1906 are reported as “almost perfect.”

BYE-LAWS.—Building bye-laws and bye-laws for slaughterhouses and for dairies, cowsheds, and milk shops have been adopted, but none for bakehouses nor for offensive trades, among which it is suggested that whelk boiling might be classed.

NUISANCES.—64 abated during the year, including 1 case of overcrowding and 10 instances of insanitary premises.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Arrangement with Head Teachers for notifying to M.O.H. any suspected case of infectious disease. Measles and chicken-pox are notifiable under the Infectious Diseases Notification Act. No Isolation Hospital, but case is isolated at home, contacts excluded from school, and surprise visits paid. The Council are considering the provision of a steam disinfecter to supplement the present system of disinfection by means of formalin spray and vapour.

URBAN DISTRICT COUNCIL.

SWAFFHAM.

Medical Officer of Health, A. W. THOMAS, L.R.C.P.

The Report is in Manuscript.

Area in Acres	1901 Census (exclusive of inland water)	..	7,144
Population	1901 Census	.. ..	3,371
Population	1908 Estimated	.. ..	3,300
Deaths registered in the District	.. ..	55	
Corrections—Additions	.. ..	0	
	Deductions	.. ..	6
		1908.	10 years' mean. 1898—1907.
Nett Death Rate	.. ..	14·84	
Zymotic	.. ..	·33	
Infantile Mortality	.. ..	156·86	
Birth Rate	.. ..	17·87	
Cases of Infectious Diseases per 1000 population		4·24	

HOUSE ACCOMMODATION.—Two cases of overcrowding dealt with.

SEWERAGE AND DRAINAGE.—Separate system for surface water draining to ponds. The sewage proper is carried to a sewage farm two miles from the town, where it is treated first with alumino-fleoric and after removal of the precipitated matter the effluent flows on to the fields in which lucerne and mangolds are grown.

EXCREMENT AND HOUSE REFUSE DISPOSAL.—Done by Council's own men, with one horse and cart for refuse and one for nightsoil. Disused gravel pits are being used. Some houses have sanitary dustbins, others have old ashpits. Most of the houses have pail closets, but there are still a few old privy vaults.

WATER SUPPLY.—From a well 165 feet in depth in the chalk. The supply during the year has been good in quality and quantity.

SUPERVISED PREMISES.—Dairies have been registered and inspected. All the workshops, dairies, cowsheds, bakehouses, and slaughterhouses have been inspected.

NUISANCES.—56 nuisances were abated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—On notification, when practicable, the patients are isolated. A cottage on the outskirts of the town was utilised for the isolation of Scarlet Fever during the year.

URBAN DISTRICT COUNCIL.

WALSHAM (NORTH).

Medical Officer of Health, J. SHEPHEARD, M.R.C.S.

The Report is in Manuscript.

Area in Acres	1901 Census (exclusive of inland water)	..	4,252	
Population	1901 Census	..	3,981	
Population	1908 Estimated	..	4,290	
Deaths registered in the District	..	..	44	
Corrections—Additions	..	..	0	
	Deductions	..	0	
				10 years' mean.
				1908. 1898—1907.
Nett Death Rate	..	..	10·25	14·5
Zymotic „	..	..	·46	
Infantile Mortality	..	..	63·8	128·6
Birth Rate ..	..	..	21·9	26·7
Cases of Infectious Diseases per 1000 population			1·8	

SEWERAGE AND DRAINAGE.—Drainage by open channels and drains.

WATER SUPPLY continued satisfactory.

SUPERVISED PREMISES.—4 bakehouses, 8 slaughterhouses, 2 lodginghouses, 37 workshops, and 4 cowsheds were inspected and found satisfactory, with three exceptions. The necessary requirements have since been complied with.

NUISANCES.—It is stated that no serious nuisances have arisen.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Seven houses in which infectious diseases occurred were visited and instructions were given.

URBAN DISTRICT COUNCIL.

WALSOKEN.

Medical Officer of Health, H. GROOM, M.D.

The Report is Typewritten.

Area in Acres	1901 Census (exclusive of inland water)	..	4,652	
Population	1901 Census	..	3,250	
Population	1908 Estimated	..	3,581	
Deaths registered in the District	..	..	35	
Corrections—Additions	..	..	0	
	Deductions	..	0	
				10 years' mean.
				1908. 1898—1907.
Nett Death Rate	..	..	9·7	16·4
Zymotic „	..	..	·27	
Infantile Mortality	..	..	132·07	165·59
Birth Rate ..	..	..	29·6	31·32
Cases of Infectious Diseases per 1000 population			5·86	

CHIEF OCCUPATION OF THE INHABITANTS.—The printing factory employs a large number of people, but the chief occupation is agriculture.

SEWERAGE AND DRAINAGE.—The chief trouble has been in connection with the sewers in Duke Street and in George Street. Manholes have now been made for inspection and cleansing.

WATER SUPPLY.—The Marham water is largely used in the district.

SUPERVISED PREMISES.—The various slaughterhouses and cowsheds maintain their improved state.

NUISANCES.—Few complaints; all speedily attended to. “The district in general has been kept in a very cleanly state.”

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Disinfectants distributed, and the Sanitary Inspector personally attends to disinfection, and all cases, when possible, removed to Infectious Diseases Hospital.

URBAN DISTRICT COUNCIL.

WELLS-NEXT-THE-SEA AND PORT.

Medical Officer of Health, G. CALTHROP, M.B.

The Report is Typewritten.

Area in Acres	1901 Census (exclusive of inland water)	..	2,025	
Population	1901 Census	..	2,491	
Population	1908 Estimated	..	2,455	
Deaths registered in the District	..	..	36	
Corrections—Additions	..	..	0	
	Deductions	..	0	
				10 years' mean.
				1908. 1898—1907.
Nett Death Rate	..	..	14·6	16·2
Zymotic „	..	..	·81	
Infantile Mortality	..	..	125·0	
Birth Rate	..	..	26·0	24·5
Cases of Infectious Diseases per 1000 population			4·88	

CHIEF OCCUPATION OF INHABITANTS.—Farm labourers, maltsters, and fishermen.

HOUSE ACCOMMODATION.—Adequate for the population, but many of the old houses are crowded together with insufficient light and air space around.

SEWERAGE AND DRAINAGE.—Slops and rain water conveyed by three routes to the Harbour. Very few water-closets, and these empty into cemented cesspools with overflows into the drains.

POLLUTION OF RIVERS AND STREAMS.—Slop water (and no doubt urine and occasionally excremental matter) discharged along the foreshore of the Run.

EXCREMENT DISPOSAL.—Pails or cemented boxes, regularly emptied by the scavenger.

HOUSE REFUSE.—Removed regularly by the scavenger.

WATER SUPPLY.—From wells; plentiful, and on the whole good. In some instances, slop gullies are situated too near the wells. Most of the wells in the North part of the town are influenced by the tides, and show a large proportion of sodium chloride.

SUPERVISED PREMISES.—Workshops, dairies, cowsheds, and slaughterhouses have been inspected.

SCHOOL.—Full notes are given as to the sanitary condition of the School, which accommodates 500 scholars.

NUISANCES.—Very few reported.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—No infectious diseases hospital. Home isolation as far as possible. Disinfection of utensils, clothes, and excreta. No special apparatus for disinfection by steam. Formalin and sulphur dioxide relied on.

URBAN DISTRICT COUNCIL.

KING'S LYNN (Borough of).

Medical Officer of Health, H. C. ALLINSON, M.R.C.S.

*The Report is in Print, and includes the Report of the Inspector of Nuisances
(Mr. J. W. Shaw, Assistant Sanitary Inspector).*

Area in Acres	1901 Census (exclusive of inland water)	..	3,099	
Population	1901 Census	..	20,128	
Population	1908 Estimated	..	21,406	
Deaths registered in the District	..	..	303	
Corrections—Additions	..	..	0	
	Deductions	..	17	
				10 years' mean.
				1908. 1898—1907.
Nett Death Rate	..	..	13·3	14·2
Zymotic „	..	..	2·52	
Infantile Mortality	..	..	107·8	134·17
Birth Rate	..	..	24·2	
Cases of Infectious Diseases per 1000 population			2·52	

DISTRICT.—Soil—“Mud and silt deposited on the outer or sea side of a series of embankments prehistorically made to reclaim the swamp between Gaywood and Runceton.”

HOUSE ACCOMMODATION.—5 cases of overcrowding abated; 10 houses placed in habitable repair. 28 insanitary houses were dealt with under the Housing of the Working Classes Act, and a closing order obtained in respect of 13.

SEWERAGE AND DRAINAGE.—“Lying mainly below the level of the higher Spring tides, its sewerage has always been a matter of difficulty.”

WATER SUPPLY.—Excellent.

SUPERVISED PREMISES.—All cowsheds and dairies have been regularly visited. Two cowsheds were reported as insanitary, and improved—one only after a Magistrate's Order had been obtained. Meat inspection resulted in 5 whole carcasses and 6 part carcasses being destroyed because of tubercular disease. 53 defects found in the course of inspections under the Factory and Workshop Act, 1901, were duly remedied.

SCHOOLS.—King's Lynn has a separate Education Authority, and there are no remarks on Schools in the Annual Report of the Medical Officer of Health.

NUISANCES.—Systematic inspection of the District made by both M.O.H. and Inspector; also a house-to-house inspection in certain streets.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Home isolation, and printed instructions as to precautions necessary left at infected houses. Schools notified of occurrence of infectious disease and date on which children may return to School. Disinfection of infected bedding by means of a steam disinfecter (Washington Lyons). There is an isolation hospital in Hardwick Road, but apparently it was not used during the year, during which there were 31 notified cases of Enteric Fever, 5 of Diphtheria, and 16 of Scarlet Fever.

URBAN DISTRICT COUNCIL.

THETFORD (Borough of).

Medical Officer of Health, A. HARRIS, M.B.

The Report is Typewritten.

Area in Acres	1901 Census (exclusive of inland water)	..	7,096	
Population	1901 Census	.. ..	4,613	
Population	1908 Estimated	.. ..	4,613	
Deaths registered in the District	.. ..	83		
Corrections—Additions	.. ..	0		
Deductions	.. ..	0		
				10 years' mean.
			1908.	1898—1907.
Nett Death Rate	.. ..	15·1	14·7	
Zymotic „	.. ..	1·3		
Infantile Mortality	.. ..	91·7	93·2	
Birth Rate	.. ..	23·6	22·6	
Cases of Infectious Diseases per 1000 population		3·25		

HOUSE ACCOMMODATION.—The houses for the working classes for the most part good, kept clean, and with sufficiency of air space. A complete house-to-house inspection was made during the year and a special Report presented.

CHIEF OCCUPATION OF INHABITANTS.—Agricultural pursuits, engineering, malting, and general trading.

SEWERAGE AND DRAINAGE.—There is no system of sewerage, beyond drainage for surface-water, but this receives a considerable amount of slop-water and other strong sewage, discharging into the river. Following on a special Report by the Medical Officer of Health, an expert Sanitary Engineer was engaged to report to the Council as to the best means of sewerage the District. At the close of the year the matter was still under consideration. [Since then a meeting of ratepayers has rejected the Engineer's scheme.]

POLLUTION OF RIVERS AND STREAMS.—As stated in the preceding paragraph, some sewage finds its way into the Little Ouse river.

EXCREMENT DISPOSAL.—By means of privy vaults. "It is intended to have all these taken in hand. Towards the close of the year the Council undertook the responsibility of the emptying of them. The excrement is disposed of on the land."

HOUSE REFUSE.—Removed systematically—what admits of burning is so dealt with.

WATER SUPPLY.—Perfectly pure. There are now only 15 houses not supplied with the town water.

SUPERVISED PREMISES.—Great improvement in the condition of the cowsheds. The slaughterhouses in good order and clean. 56 inspections were made under the Factory and Workshop Act.

SCHOOLS.—The Schools of the town are in a good sanitary condition. The public Elementary School was disinfected on account of Scarlet Fever.

BYE-LAWS.—Building bye-laws under consideration during 1908.

NUISANCES.—82 nuisances dealt with, 28 remaining unabated.

METHODS OF DEALING WITH INFECTIOUS DISEASES.—Infected houses visited and inquiries made; disinfectants supplied. Notice given to Head Teacher if children are to be excluded from School. At termination of case medical man in charge notifies the Inspector, who then disinfects with formalin both in form of gas and spray. The walls are usually stripped and re-papered and the house cleaned. Articles which cannot otherwise be disinfected are burnt and compensation allowed. Anti-diphtheria serum provided for necessary cases; also as a prophylactic. There is no isolation hospital.

TABLE OF VITAL STATISTICS, ETC., 1908.

WHOLE COUNTY. INFANTILE MORTALITY—Causes of.

CAUSE OF DEATH.				Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 Year.	Rural Districts.	Urban Districts.	
All Causes	{	Certified	.. ..																	728	584	144	
		Uncertified	.. ..																	19	19		
1. Common Infectious Diseases	{	Small Pox	.. ..																				
		Chicken Pox	.. ..													1				1	1		
		Measles	.. ..							2	1				1	1	3	3	8	6	25	18	7
		Scarlet Fever	.. ..																				
		Diphtheria (incl. Membranous Croup)		1				1													1		1
2. Diarrhœal Diseases	{	Whooping Cough	.. ..				2	2	7	6	6	3	7	8	9	2	9	7	7	73	62	11	
		Diarrhœa, all forms	.. ..			1		1	1	1	3		3		1	1		1	1	13	9	4	
		Enteritis—Muco-enteritis, Gastro-ent.		1				1	2	3	2	1		2				1	1	13	8	5	
3. Wasting Diseases	{	Gastritis, Gastro-intestinal Catarrh	.. ..			1		1	3	1		1		1			1	1	1	10	8	2	
		Premature Birth	.. ..	128	10	8	7	153	7	3	2	1									166	129	37
		Congenital Defects	.. ..	17	4	2	2	25	4	2											31	29	4
		Injury at Birth	.. ..	3	2			5													5	4	1
		Want of Breast Milk, Starvation	.. ..	4				4	1			1	1								7	6	1
4. Tuberculous Diseases	{	Atrophy, Debility, Marasmus	.. ..	36	7	5	10	58	25	10	13	5	5	6	3	1		3		129	101	26	
		Tuberculous Meningitis	.. ..							1		1			1		1	1	1	6	5	1	
		„ Peritonitis, Tabes Mesenterica									1	1			1	1				4	3	1	
5. Other Causes	{	Other Tuberculous Diseases	.. ..								2	1				1	2		1	7	7		
		Erysipelas	.. ..	1				1													1	1	
		Syphilis	.. ..			1		1		1					1						3		3
		Rickets	.. ..																	1	1	1	
		Meningitis (not Tuberculous)	.. ..									1									1		1
		Convulsions	.. ..	10	1			11	5	10	8	6	3		5	2	4	3	1	58	51	7	
		Bronchitis	.. ..	1	2	8	3	14	10	9	4	8	2	6	8	4	1		4	70	60	10	
		Laryngitis	.. ..																				
		Pneumonia	.. ..	1				1	3	5	1	2	3	3	8	5	2	4	4	41	32	9	
		Suffocation, Overlying	.. ..	2				2	2	1					1					6	4	2	
		Other Causes	.. ..	15	8	3	3	29	11	4	3	4	3	5	4	2	1	5	4	75	59	11	
Totals				.. ..	220	34	29	27	310	81	59	46	35	27	33	43	22	24	34	33	747	603	144

RURAL DISTRICTS.

CAUSE OF DEATH.					Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	
All Causes	{	Certified	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
		Uncertified	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
1. Common Infectious Diseases	{	Small Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
		Chicken Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	
		Measles	..	..	..	..	..	..	..	..	2	1	..	..	1	1	2	
		Scarlet Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
		Diphtheria (incl. Membranous Croup)			..	..	..	..	..	..	..	..	..	..	..	..	..	
		Whooping Cough	..	..	..	..	2	2	6	6	4	3	5	6	8	1	..	
2. Diarrhoeal Diseases	{	Diarrhoea, all forms	..	..	..	1	..	1	1	1	3	..	1	..	..	1		
		Enteritis—Muco-enteritis, Gastro-ent.	1	..	..	..	..	1	1	1	1	1	..	1	..	..		
		Gastritis, Gastro-intestinal Catarrh	..	..	..	..	..	..	3	1	..	1	..	1	..	..		
3. Wasting Diseases	{	Premature Birth	..	..	103	8	4	5	120	6	2	1	..	..	..	..	..	
		Congenital Defects	..	..	16	3	1	2	22	3	2	..	..	..	..	..	1	
		Injury at Birth	..	..	2	2	..	..	4	..	..	..	..	..	..	..	..	
		Want of Breast Milk, Starvation	..	..	4	..	..	..	4	1	..	..	1	..	..	..	..	
		Atrophy, Debility, Marasmus	..	..	31	5	5	8	49	19	8	8	5	5	4	1	1	
4. Tuberculous Diseases	{	Tuberculous Meningitis	..	..	..	..	..	..	..	1	..	..	..	..	1	..		
		„ Peritonitis, Tabes Mesenterica	..	..	..	..	..	..	..	..	1	..	..	..	1	1		
		Other Tuberculous Diseases	..	..	..	..	..	..	..	..	2	1	..	..	..	1		
5. Other Causes	{	Erysipelas	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	
		Syphilis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
		Rickets	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
		Meningitis (not Tuberculous)			..	..	..	..	..	..	..	..	..	..	..	..	..	
		Convulsions	..	..	..	8	1	..	..	9	4	8	8	6	3	..	5	1
		Bronchitis	..	..	..	..	1	7	2	10	9	8	3	8	1	6	8	4
		Laryngitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
		Pneumonia	..	..	..	1	..	..	..	1	2	4	1	1	3	2	7	3
		Suffocation, Overlying	..	..	..	2	..	..	..	2	1	..	..	..	..	..	1	..
		Other Causes	..	..	..	12	8	2	2	24	12	4	3	4	1	4	4	..
Totals					..	181	28	20	21	249	67	48	36	31	19	25	38	16

INFANTILE MORTALITY—Causes of.

9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 Year.	Aylsham.	Blofield.	Depwade.	Docking.	Downham.	Erpingham.	Flegg, E. and W.	Forehoe.	Henstead.	Loddon and Clavering.	West Lynn.	Freebridge Lynn.	Marshland.	Mitford and Launditch.	St. Faith's.	Smallburgh.	Swaffham.	Thetford.	Walsingham.	Wayland.
..	..	..	..	34	29	31	40	48	39	29	41	12	18	8	24	52	36	19	23	18	21	31	31
..	..	..	..	2	4	3	..	..	..	..	..	..	1	..	3	..	..	4	..	2	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
2	4	5	18	..	..	2	3	2	..	..	..	..	..	2	..	6	..	..	..	..	1	..	2
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	6	7	62	10	2	2	4	4	2	1	4	..	1	2	2	3	9	3	1	2	4	2	4
..	..	1	9	..	2	1	1	..	..	1	3	..	..	1	..	..	..	..	..	..	..	..	..
..	1	1	8	1	..	1	2	.	1	..	1	..	..	..	..	..	1	..	1	..	..	..	..
..	1	1	8	1	..	1	..	..	..	1	..	..	..	..	..	3	1	1	..	..	..	..	..
..	..	..	129	11	8	7	11	6	9	5	8	5	3	1	10	10	8	4	5	2	4	6	6
1	..	..	29	3	..	6	2	1	..	..	1	..	..	1	..	1	3	1	2	..	..	6	2
..	..	..	4	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
..	..	..	6	3	..	..	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
..	1	..	101	5	8	5	3	13	12	7	8	1	1	1	8	6	3	1	6	..	3	4	6
1	1	1	5	..	..	1	1	..	1	..	..	..	..	..	..	2	..	..	..	..	..	..	..
..	..	..	3	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	1	..	..
2	..	1	7	..	3	.	..	2	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
.	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	3	1	51	1	3	..	2	8	1	5	7	2	1	..	3	3	1	3	2	2	1	3	3
1	..	2	60	1	5	2	3	6	2	..	6	2	1	..	1	6	4	3	4	7	2	2	3
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	3	4	32	..	1	1	1	2	6	2	1	..	..	..	1	4	3	..	1	2	1	5	1
..	..	..	4	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..
..	5	4	64	..	1	..	4	2	5	4	2	2	12	..	2	7	2	5	1	2	3	1	4
19	25	29	603	36	33	34	40	48	39	29	41	12	19	8	27	52	36	23	23	20	21	31	31

URBAN DISTRICTS.

CAUSE OF DEATH.					Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.
All Causes { Certified } { Uncertified }					Not differentiated									
1. Common Infectious Diseases	Small Pox													
	Chicken Pox													
	Measles													
	Scarlet Fever													
	Diphtheria (incl. Membranous Croup)				1				1					
2. Diarrhœal Diseases	Whooping Cough									1		2		2
	Diarrhœa, all forms													2
	Enteritis—Muco-enteritis, Gastro-ent.									1	2	1		
	Gastritis, Gastro-intestinal Catarrh ..						1		1					
	3. Wasting Diseases	Premature Birth				25	2	4	2	33	1	1	1	1
Congenital Defects				1	1	1		3	1					
Injury at Birth				1				1						
Want of Breast Milk, Starvation ..													1	
Atrophy, Debility, Marasmus ..				5	2		2	9	6	2	5			
4. Tuberculous Diseases	Tuberculous Meningitis												1	
	,, Peritonitis, Tabes Mesenterica												1	
	Other Tuberculous Diseases ..													
5. Other Causes	Erysipelas													
	Syphilis						1		1		1			
	Rickets													
	Meningitis (not Tuberculous) ..												1	
	Convulsions				2				2	1	2			
	Bronchitis				1	1	1	1	4	1	1	1		1
	Laryngitis													
	Pneumonia									1	1		1	
	Suffocation, Overlying									1	1			
	Other Causes				3		1	1	5					2
Totals					39	6	9	6	60	14	11	10	5	8

INFANTILE MORTALITY—Causes of.

6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 Year.	Cromer.	East Dereham.	Downham Market.	Diss.	Hunstanton, New.	Sheringham.	Swaffham.	North Walsham.	Walsoken.	Wells-next-Sea.	Thetford M.B.	King's Lynn M.B.
		1	1	4	1	7											1	6
2	1	1	1	1		1												1
	1			1		11	1	3		1	1			1				4
1						4			1							1		2
			1			5			1	1		1		1	1			
						2				1							1	
						37	7	5	2			1	1	1	2	6		12
						4								1				3
						1	1											
						1	1											
	2			2		26	1	1	2						6		4	12
						1												1
						1							1					
1						3												3
						1				1								
		1	1			7							1		4			2
					2	10		1					1	1	1		1	5
1	1	2	1	1		9	2	1					2			1	1	2
						2		1					1					
1		2	1			11	1		1	1		1	1	1			2	3
6	5	7	6	9	3	144	14	12	7	5	1	3	8	6	14	8	10	56

DISTRICT.	DIPHTHERIA (Including Membranous Group).							SCARLET FEVER.							No. of Cases Notified.
	No. of Cases Notified.	No. of Deaths.	No. of Cases removed to Hospital.	Cases per 1000 Population.	Deaths per 1000 Population.	Deaths per 100 Cases notified.	Percentage of Cases removed to Hospital.	No. of Cases Notified.	No. of Deaths.	No. of Cases removed to Hospital.	Cases per 1000 Population.	Deaths per 1000 Population.	Deaths per 100 Cases notified.	Percentage of Cases removed to Hospital.	
Rural—															
Aylsham ..	16	2	..	·95	·11	12·5	..	13	..	..	·77	..	..	..	5
Blofield ..	8	1	..	·74	·09	12·5	..	20	..	..	1·85	..	..	..	8
Depwade ..	5	..	..	·25	..	..	..	21	..	..	1·05	..	..	..	3
Docking ..	13	..	..	·82	..	..	..	35	..	..	2·22	..	..	..	25
Downham ..	2	3	..	·13	·2	150·0	..	87	4	..	5·8	·26	4·5	..	3
Erpingham ..	57	11	..	3·19	·61	19·2	..	53	..	..	2·96	..	..	..	1
Flegg, East and West	19	4	..	1·93	·4	21·05	..	7	..	..	·70	..	..	..	10
Forehoe ..	12	1	2	1·05	·08	8·33	16·66	4	..	1	·35	..	..	25·0	9
Henstead ..	31	5	..	2·99	·48	16·12	..	21	..	..	2·02	..	..	..	1
Loddon and Clavering	12	2	..	·99	·16	16·66	..	35	..	..	2·9	..	..	..	3
West Lynn ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Freebridge Lynn ..	7	..	..	·59	..	..	..	7	..	..	·59	..	..	..	6
Marshland ..	24	3	..	2·13	26	12·5	..	33	1	..	2·93	·08	3·03	..	1
Mitford and Launditch	7	1	..	·38	·05	14·28	..	11	..	..	·59	..	..	..	7
St. Faith's ..	18	3	..	1·62	·27	16·66	..	12	..	..	1·08	..	..	..	8
Smallburgh ..	9	..	..	·66	..	..	..	36	1	..	2·64	·07	2·77	..	3
Swaffham ..	38	6	..	4·97	·78	15·8	..	11	..	..	1·43	..	..	..	..
Thetford ..	..	..	..	..	..	..	..	5	..	..	·50	..	..	..	1
Walsingham ..	27	3	..	1·54	·17	11·11	..	39	..	..	2·22	..	..	..	13
Wayland ..	3	1	..	·21	·07	33·33	..	8	..	..	·57	..	..	..	8
Totals (Rural Districts) ..	308	46	2	1·20	·18	14·93	·64	458	6	1	1·79	·02	1·31	·21	115
Urban—															
Cromer ..	2	..	..	·48	..	..	..	7	..	7	1·70	..	..	100	1
Dereham ..	5	..	..	·9	..	..	..	20	..	..	3·6	..	..	..	4
Downham ..	1	..	..	·4	..	..	..	3	..	..	1·2	..	..	..	1
Diss ..	1	..	..	·26	..	..	..	1	..	..	·26	..	..	..	9
Hunstanton, New	4	..	..	2·11	..	..	..	..	..	..	..	..	..	..	..
Sheringham ..	..	..	..	..	..	..	..	23	..	..	7·66	..	..	..	..
Swaffham ..	..	..	..	..	..	..	..	14	..	..	4·24	..	..	..	..
Walsham, North	5	1	..	1·16	·23	20·0	..	2	..	..	·46	..	..	..	1
Walsoken ..	13	..	..	3·63	..	..	..	5	..	..	1·39	..	..	..	1
Wells-next-Sea ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11
Thetford B. C.	1	1	..	·21	·21	100	..	14	1	..	3·03	·21	7·14	..	..
King's Lynn B. C.	5	2	..	·23	·09	40·0	..	16	..	..	·74	..	..	..	31
Totals (Urban Districts) ..	37	4	..	·61	·06	14·85	..	105	1	7	1·55	·01	·95	6·66	59
Totals (Whole County) ..	345	50	2	1·09	·15	14·49	·57	563	7	8	1·78	·02	1·24	1·42	174

ENTERIC FEVER.						ERYSIPELAS.							PUERPERAL FEVER.						
No. of Deaths.	No. of Cases removed to Hospital.	Cases per 1000 Population.	Deaths per 1000 Population.	Deaths per 100 Cases notified.	Percentage of Cases removed to Hospital.	No. of Cases Notified.	No. of Deaths.	No. of Cases removed to Hospital.	Cases per 1000 Population.	Deaths per 1000 Population.	Deaths per 100 Cases notified.	Percentage of Cases removed to Hospital.	No. of Cases Notified.	No. of Deaths.	No. of Cases removed to Hospital.	Cases per 1000 Population.	Deaths per 1000 Population.	Deaths per 100 Cases notified.	Percentage of Cases removed to Hospital.
..	..	·29	..	..	..	6	1	..	·35	·05	16·66	..	1	1	..	·05	·05	100·0	..
2	..	·74	·18	25·0	..	10	1	..	·92	·09	10·0	..	0	1	..	..	·09	..	..
..	..	·15	..	..	..	9	2	..	·45	·10	22·22	..	2	1	..	·10	·05	50·0	..
1	..	1·5	·06	4·0	..	5	..	..	·31	..	..	..	..	..	..	..	..	..	..
1	..	·2	·06	33·33	..	3	..	..	·2	..	..	..	1	1	..	·06	·06	100·0	..
..	..	·05	..	..	..	5	..	..	·25	..	..	..	2	2	..	·11	·11	100·0	..
3	..	1·00	·30	30·0	..	6	..	..	·60	..	..	..	..	..	..	..	..	..	..
3	2	·79	·26	33·33	22·22	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	..	·09	·09	100·0	..	2	..	..	·18	..	..	..	..	..	..	..	..	..	..
..	..	·24	..	..	..	12	..	..	·99	..	..	..	..	..	..	..	..	..	..
..	..	..	..	:	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	1	·50	·16	33·33	16·66	7	..	..	·59	..	..	..	1	1	..	·08	·08	100·0	..
1	..	·08	·08	100·0	..	5	..	..	·44	..	..	..	..	..	..	..	..	..	..
..	..	·38	..	..	..	4	1	..	·21	·05	25·0	..	..	..	..	..	..	..	.
1	..	·72	·09	12·5	..	5	..	..	·45	..	..	..	1	1	..	·09	·09	100·0	..
..	..	·22	..	..	..	3	..	..	·22	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	2	..	..	·26	..	..	..	..	..	..	..	..	..	..
..	..	·10	..	..	..	..	..	..	..	..	..	..	2	..	..	·20	..	..	..
..	..	·74	..	..	..	..	..	..	..	..	..	..	1	..	..	·05	..	.	..
1	..	·57	·07	12·5	..	1	..	..	·07	..	..	..	1	1	..	·07	·07	100·0	..
16	3	·45	·06	13·9	2·6	85	5	..	·33	·01	5·85	..	12	9	..	·04	·03	75·0	.
..	..	·24	..	..	..	1	..	..	·24	..	..	..	..	..	..	..	..	..	..
2	..	·72	·36	50·0	..	..	1	..	..	·18	..	..	..	..	..	..	..	..	..
..	..	·4	..	..	..	1	..	..	·4	..	..	..	..	..	..	..	..	..	..
1	..	2·36	·26	11·11	..	1	..	..	·26	..	..	..	..	.	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	·33	·33	100·0	..
..	..	..	..	..	..	..	..	..	..	..	:	..	..	..	..	..	..	..	..
..	..	·23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	·28	..	..	..	2	1	..	·56	·28	50·0	..	..	..	..	..	..	..	..
1	..	4·48	·4	9·09	..	1	..	..	·4	..	..	..	..	..	..	..	..	..	..
:	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..	1·44	·14	9·67	..	12	..	..	·56	..	..	..	..	..	..	..	..	..	..
7	..	·97	·11	11·86	..	18	2	..	·29	·03	11·11	..	1	1	..	·01	·01	100·0	..
23	3	·55	·07	13·21	1·72	103	7	..	·32	·02	6·77	:	13	10	..	·04	·03	76·92	..

ADMINISTRATION OF FACTORY AND
Rural

	Aylsham.	Blofield.	Depwade.	Docking.	Downham.	Erpingham.	Flegg E. & W.	Forehoe.	Henstead.	Loddon and Clavering.
1. Number of Inspections—										
Factories (including Factory Laundries) ..	2	2						90		
Workshops (including Workshop Laundries) ..	17	4		495	80	45	33	268	3	
Workplaces						85			40	
Homeworkers' Premises										
Total	19	6		495	80	130	33	358	43	
2. Defects found—(<i>Nuisances under the Public Health Acts</i>)*										
Want of Cleanliness	2			7	1	10			12	
Want of Ventilation	1								1	
Overcrowding									1	
Want of Drainage of Floors										
Other Nuisances										
Sanitary Accommodation { Insufficient					1					
{ Unsuitable or Defective									9	
{ Not separate for Sexes										
(<i>Offences under the Factory and Workshop Act</i>)										
Illegal Occupation of Underground Bakehouses (S. 101)										
Breach of Special Sanitary Requirements for Bake-										
houses (Ss. 97-100)										
Failure as regards List of Outworkers (S. 107) ..			No data given				No further data			No data given
Giving out Work to be done { Unwholesome (S. 108)..										
in Premises which are { Infected (S. 110) ..										
Allowing Wearing Apparel to be made in Premises								Nil		
infected by Scarlet Fever or Small Pox (S. 109) ..										
Other Offences										
Total	3			7	2	10			23	
3. Failure to affix Abstract of the Factory and Workshop										
Act (S. 133)										
4. No. of Workshop Bakehouses										
No. of Underground Bakehouses in use										
5. List of Outworkers received from Employers in District										
No. of Outworkers on above Lists										
Addresses of { Forwarded to other Authorities ..										
Outworkers { Received from other Authorities ..										
6. Homework in Unwholesome or Infectious Premises—										
Notices prohibiting Homework in Unwholesome										
Premises (S. 108)										
Cases of Infectious Disease notified in Homeworkers'										
Premises										
Orders prohibiting Homework in Infected Premises										
(S. 110)										
7. Workshops on Register (S. 131) at the end of the Year..	58	24		135	86			67	43	

* Including those specified in Sections 2, 3, 7, and 8 of the Factory

WORKSHOP ACT, 1901, FOR THE YEAR 1908.

Districts.

Urban Districts.

West Lynn.	Freebridge Lynn.	Marshall.	Mitford and Launditch.	St. Faith's.	Smallburgh.	Swaffham.	Thetford.	Walsingham.	Wayland.		Cromer.	Dereham.	Downham Market.	Diss.	New Hunstanton.	Sheringham.	Swaffham.	North Walsham.	Walsoken.	Wells.	King's Lynn M.B.	Thetford M.B.
	2	17			6	6	18	12				11	} 29	2				11			79	
	18	75		18	23		43	126	65	18	25			21	53		25	37	6		315	56
	2		38		4			122					14								176	
	22	92	38	18	33	6	61	260	65	18	36	43	23	53			25	48	6		570	56
No Factories or Workshops	11				3	2	3	18	30				1	6				1			15	
	2							2														
	1					1		2					1								2	
								1					1									
	17					3		24	5				1									
	1																				14	
	1																				4	
	1																	1			5	
																		1				
				No further data						No further data	No further data					No data given	No further data			No data given	No further data	4
	34				3	6	3	47	35				1	9				3			53	
			18		9		15							1							4	
								7					2								32	7
													26								22	
													10								232	
	98	75	18		33	No Register kept	33	120	44				29	39	14			39			173	33

SUMMARY OF SANITARY WORK DONE IN THE RURAL DISTRICTS, 1909.

RURAL SANITARY DISTRICTS.	Population.	Complaints Received.	Nuisances Detected without Complaint.	Nuisances Abated.	Notices Served.	Summonses Taken Out.	Convictions.	Cottages Inspected.	Lodging-houses Inspected.	Stable-houses Inspected.	Bakehouses Inspected.	Dairies and Milk-shops Inspected.	Cowsheds Inspected.	Workshops Inspected.	Filthy Houses Cleaned (Sec. 46, P. H. A., 1875).	Houses Disinfected.	Overcrowding Abated.	Houses placed in Habitable Repair.	Houses Closed.	Houses Erected or Rebuilt for which Water Certificate sought.	"Certificates" Granted.	"Certificates" Deferred.	Wells Sunk or Improved Supplies of Water.	Wells Cleaned or Repaired.	Wells Closed.	Houses connected with Sewers.	Houses connected with Water Mains.	Earth, Pail, or Improvised Privies Constructed or existing Privies Altered.	Privies and W.C.'s Repaired.	W.C.'s supplied with Water.	Cisterns Cleaned, Repaired, or Covered.	Animals improperly Kept removed.	Samples of Water taken for Analysis.	Compensation Paid for Destruction of Infected Bedding.	Seizure of Unsound Meat.	Canal Boats Inspected.			
Aylsham ..	16773	..	..	114	..	..	..	..	..	19	25	14	..	..	4	..	5	..	..	..	..	..	6	12	..	..	..	126	17	..	..	..	..	..	..	..	..	..	
Blofield ..	11845	3	236	230	144	1	1	143	..	4	..	6	6	..	..	6	..	..	..	1	..	..	..	4	..	..	..	164	..	..	..	..	..	..	..	..	..	..	
Depwade ..	19817	..	..	..	..	..	..	..	..	..	..	..	..	..	..	58	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Docking ..	15741	..	473	451	87	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Downham	14837	..	140	116	..	1	1	..	..	20	30	9	..	50	..	15	4	16	..	..	..	..	..	..	..	..	24	7	7	..	1	11	54	1	..	10			
Erpingham	17863	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Flegg, E. and W.	9909	3	119	108	64	..	..	336	..	6	5	4	3	33	..	..	3	1	..	..	..	..	..	6	1	..	1	27	5	7	..	..	6	2	..	..	..		
Forehoe ..	11250	..	..	287	18	1	..	263	..	48	36	19	0	90	4	18	7	4	4	..	14	..	12	3	2	..	..	..	41	41	..	..	10	..	..	..	..	..	
Henstead	10358	..	213	174	135	1	1	880	..	10	7	31	47	43	..	35	3	..	..	..	4	2	7	3	2	..	..	..	96	176	..	..	8	2	7	..	..	..	
Loddon and Clavering	12033	..	945	..	3	..	..	387	..	..	2	0	36	1	3	37	..	21	2	..	..	..	4	5	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
West Lynn	632	7	16	22	3	..	..	10	..	..	1	3	2	..	2	3	..	..	..	..	..	..	..	..	..	4	4	..	4	..	5	..	..	..	..	..	..	..	
Freebridge Lynn	11847	32	987	1004	39	4	4	493	..	164	98	112	216	208	14	25	17	111	6	..	22	18	4	7	20	4	6	52	39	12	4	8	7	..	1	..	..		
Marshland	11245	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	36	..	..	..	..	..	..	20	..	..	..	..	..	..	..	..	..	..	
Mitford and Launditch	11437	9	370	300	229	1	1	743	..	19	18	57	60	38	1	11	..	1	1	..	5	5	..	1	15	1	..	..	51	125	..	..	..	..	..	..	..	..	..
St. Faith's	11075	20	450	458	65	..	..	150	..	7	7	18	60	18	5	20	4	6	2	3	3	..	3	10	1	..	38	43	40	12	..	6	7	3½	9	..	..		
Smallburgh	13223	10	No record	25	65	..	..	905	1	14	9	12	15	20	5	15	3	3	..	4	3	1	12	6	3	..	..	34	..	5	15	11	..	..	..	..	..	..	
Swaffham	7644	12	78	88	8	1	1	250	..	3	15	25	20	6	12	37	6	20	4	..	..	..	6	10	1	..	..	10	20	..	..	32	6	..	..	..	..	..	
Thetford ..	9950	14	230	190	320	1	1	1512	..	10	15	27	28	..	3	4	..	14	4	4	1	..	2	64	3	..	..	16	67	..	..	31	4	4¼	..	..	..	..	
Walsingham	17347	38	236	300	35	..	..	137	10	12	32	35	33	120	6	48	15	4	1	12	11	1	9	9	1	12	..	15	6	4	1	7	25	2½	..	..	..		
Wayland ..	13793	27	125	135	80	..	..	210	..	15	28	13	18	10	3	4	4	4	1	9	8	1	..	5	..	..	2	..	5	11	1	30	7	4	..	..	..	..	

SUMMARY OF SANITARY WORK DONE IN THE URBAN DISTRICTS, 1908.

URBAN SANITARY DISTRICTS.	Population.	Complaints Received.	Nuisances Detected without Complaint.	Nuisances Abated.	Notices Served.	Summonses Taken Out.	Convictions.	Cottages Inspected.	Lodging-houses Inspected.	Slaughter-houses Inspected.	Bakehouses Inspected.	Dairies and Milk-shops Inspected.	Cowsheds Inspected.	Workshops Inspected.	Filthy Houses Cleansed (Sec. 46, P.H.A., 1875).	Houses Disinfected.	Overcrowding Abated.	Houses placed in Habitable Repair.	Houses Erected or Rebuilt for which Water Certificate sought.	"Certificates" Granted.	"Certificates" Deferred.	Wells sunk or Improved Supplies of Water.	Wells Cleansed or Repaired.	Wells Closed.	Houses connected with Sewers.	Houses connected with Water Mains.	Earth, Pail, or Improved Privies Constructed or existing Privies Altered.	Privies and W.C.'s Repaired.	W.C.'s supplied with Water.	Cisterns Cleansed, Repaired or Covered.	Animals improperly kept removed.	Samples of Water taken for Analysis.	Compensation Paid for Destruction of Infected Bedding.	Seizure of Unsound Meat.	Canal Boats Inspected.			
Cromer	..	4140	66	144	151	15	1	1	245	..	..	5	1	3	18	..	11	..	..	..	2	2	2	1	2	2	2	..	..	..	..	2	..	..	..	..		
Dereham	..	5540	5	11	16	10	..	18	..	5	8	6	6	11 { 25 }	..	17	1	..	..	..	..	3	..	..	14	21	..	1	..	..	2	9	..	..	..	..		
Downham Market	..	2472	25	89	114	..	..	House-to-House	..	10	9	6	6	29	..	4	3	..	..	..	..	1	1	..	1	42	10	5	..	..	..	36	..	..	..	..		
Diss	..	3800	13	21	28	3	..	31	..	4	7	5	6	40	..	4	..	1	..	..	..	..	..	1	..	..	3	6	1	..	1	..	..	..	..	..		
Hunstanton, New	..	1893	7	21	21	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Sheringham	..	3000	..	..	64	52	..	9	1	..	4	5	2	..	4	17	1	3	..	..	..	6	..	..	48	54	6	16	..	..	16	..	..	..	..	..		
Swaffham	..	3371	12	50	60	32	..	500	3	5	8	8	8	25	..	14	3	2	..	..	..	..	..	3	2	7	10	3	250	..	..	2	1	..	..	..		
Walsham, North	..	4290	..	..	..	..	..	650	2	8	7	..	4	37	..	..	..	..	2	13	13	..	..	2	22	13	..	1	..	..	..	..	..	..	..	..		
Walsoken	..	3250	..	22	22	10	..	230	..	4	5	4	4	6	..	6	1	..	..	2	2	..	..	..	730	773	2	..	12	..	..	6	..	..	..	..	..	
Wells-next-the-Sea & Port	..	2491	9	? ..	? ..	1	..	12	..	5	11	6	6	..	2	12	..	1	..	..	..	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	
Thetford M. B.	..	4613	10	71	53	1	..	978	1	21	19	9	30	40	..	7	1	1	1	..	..	12	..	2	..	22	..	2	18	..	..	5	1 1/2	..	..	..	..	
King's Lynn M. B.	..	20288	54	483	479	335	1	327	6	1700	62	141	31	394	16	22	5	10	13	..	..	..	1	1	1	..	2	36	..	..	1	..	..	..	..	..	..	..

